

**A STUDY ON THE SYMPTAMATOLOGY AND DIAGNOSTIC  
METHODOLOGY OF VATHA KANNAGAM**



Dissertation submitted to  
**THE TAMILNADU DR MGR MEDICAL UNIVERSITY**  
(For the partial fulfillment of the degree)  
**CHENNAI – 32**

**DOCTOR OF MEDICINE**

**Submitted by**  
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Dept. of Noi Naadal,  
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**October - 2017**

**A STUDY ON THE SYMPTAMATOLOGY AND DIAGNOSTIC  
METHODOLOGY OF VIRANA SILETHUMAM**



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Tambaram sanatorium, Chennai – 47

**October - 2017**

**A STUDY ON NAADI EXAMINATION IN VIPPURUTHI / PUTTRU  
- A RANDOMIZED AND BLINDED CASE CONTROL STUDY**



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**October - 2017**

## **BONAFIDE CERTIFICATE**

Certified that I have gone through the dissertation submitted by                       
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earlier.

Signature of the Guide with seal

Signature of the HOD with seal

Signature of the Director with seal

Place: Chennai - 47

Date:

## DECLARATION BY THE CANDIDATE

I hereby declare that this Dissertation entitled “*A STUDY ON THE SYMPTAMATOLOGY AND DIAGNOSTIC METHODOLOGY OF VATHAKANNAGAM*” is a bonafide and genuine research work carried out by me under the guidance of Dr. S. Elansekaran. M.D(S), Lecturer, Dept of NoiNaadal, National Institute of Siddha, Chennai – 47, and the dissertation has not formed the basis for the award of any degree, Diploma, Fellowship or other similar title.

Place: Chennai – 47

(Dr. B. Princy)

Date:

Signature of the Candidate

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## 1. INTRODUCTION

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Medical science in India as practised by our ancients, has been purely associated with religion and philosophy, and as such is evidently based on truth. three systems of medicine are flourishing in India are present Siddha, Ayurveda and Unani.

"தமிழ்மண் டலமைந்துந் தாவிய ஞானம்

உமிழ்வது போல வலகந் திரிவார்

அவிழு மனமுமெம் மாதிரி யறிவுந்

தமிழ்மண் டலமைந்துந் தத்துவ மாமே"

-திருமந்திரம்

Siddha system of medicine is a complete holistic medical system that has been practised in India for 2000 years and above. The Siddha system of medicine which had its presence in the ancient Tamil land is the foremost of all other medical system in the world.

The word “Siddha” comes from the word “Siddhi” which means an object to be attained or perfection or heavenly bliss. Siddhi generally refers to Ashtama Siddhi i.e., the eight great supernatural powers. Those who attained or achieved the supernatural powers are known as “Siddhars”.

The Siddhars were further the greatest scientists in ancient times. They were men of highly cultured intellectual and spiritual faculties combined with supernatural powers. Siddhars are universally supposed to have lived at a very earlier period. Sage Agasthiar who is considered as the chief of the Siddhars’ school is said to have been a celebrated philosopher and physician who laboured amongst the Tamils in Southern India. Some of his works are still standard books of medicine and surgery in daily uses among the Tamil medical practitioners.

Health is an invaluable part of a human being’s life. Without it, people can become uninspired, de-motivated and unable to thrive for success. Siddha system of medicine defines health as a complete presence of physical, mental, emotional, spiritual and social balance.., as we know the human body is a inter connected system of chemical, neuronal, hormonal etc where none of them exists independently.

All diseases are caused by the imbalance in mixture of the three cardinal humours viz., Vatham, Pitham and Kabam and that relative proportion of these humours are responsible for a person's physical and mental qualities and dispositions. They are the three fundamental principles and essential factors in the composition and constitution of the human body and life.

These three humours maintain the uptake of human body through their combined functioning. When deranged, they bring about diseases peculiar to their influences. When in equilibrium it ensures freedom from disease and when one or the other of the humours combines in such a way as to get deranged by aggravation, diminution etc., disease or death may be the results.

The humours by themselves are not the producers of diseases in their normal functioning, but they give rise to diseases if they are vitiated by other factors and hence we see that humours and diseases are altogether different and have no connection in their normal condition.

According to Siddhars' philosophy, diseases in man do not originate in himself, but from the influences which act upon him. This may occur through different causes {i.e., derangement of three humours, astral influences, poisonous substances, psychological causes, spiritual causes and diseases originating from the soul}.

According to Siddha system of Medicine diseases are classified into 4448 in number. Vathaa diseases are classified as 80 types by Sage Yugi. Vathakannagam is one of the vaatha diseases, characterised by tripping, tottering and staggering in dizziness while climbing up or getting down or trying to step high off the ground, general weakness in the whole body due to relaxing of the muscles, and spreading wide the limbs as it were a wings of the bird. Vaatha Kannagam is a condition mentioned by Sage Yugi which closely resembles the condition cerebellar ataxia mentioned in modern medical literature.

Damage to the cerebellum by vascular lesions and certain familial degenerative conditions produces cerebellar ataxia which is characterized by loss of coordination and accuracy of limb movement, if involvement is asymmetric, lateralized imbalance is more common, muscle tone is often modestly reduced,

intention tremor, dysdiadochokinesia and posture is erect but the feet are separated like broad based gait.

It is important to establish the diagnosis of Sage Yugi's Symptomatology before the development of irreversible deformity. The inner urge in me to make a contribution for alleviation of suffering of fellow humans had goaded to choose this as a dissertation topic.

The author wants to elaborate on the Vathakannagam mentioned in the literature, to get a better insight and valid explanation, so that this study might form the basis for the management and evaluate the diagnostic methodology, line of treatment, dietary regimen, exercise and life style modification of Vathakannagam including the validation of literature.

## **2. AIM AND OBJECTIVES**

---

### **AIM:**

To evaluate the diagnostic methodology and symptomatology for “Vaatha Kannagam” through Envagai thervu, Kaalam, Nilam and Manikadai Nool.

### **OBJECTIVES:**

1. To collect literary evidences about Vaatha Kannagam.
2. To study the detailed etiological factors of Vaatha Kannagam.
3. To find out the changes of Udal Thathu and Uyir Thathu.
4. To analyse the signs and symptoms of Vaatha Kannagam.
5. To correlate the symptoms of Vaatha Kannagam with that of closely resembling conditions in modern medical literature.
6. To have an idea of incidence of the Vaatha Kannagam with reference to sex, age and habit.
7. To standardize the line of treatment for Vaatha Kannagam.
8. To recommend a dietary regimen for Vaatha Kannagam

### **3.III. SIDDHHA DIAGNOSTIC METHODOLOGY**

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Siddha system has a unique diagnostic method to identify the diseases and their causes. The diagnosis made by observing and the methods of diagnosis is divided into three as follows:

1. Examination through the sense organs (Poriyal arithal)
2. Examination through the senses (Pulanal arithal)
3. Examination by interrogation (Vinathal)

#### **3.III.1.PORIYAL ARTHAL (EXAMINATION THROUGH THE SENSE ORGANS)**

**Table: 36. Information about Poriyal Aerthal**

<b>S.No</b>	<b>PORI</b>	<b>FUNCTION</b>
1.	Mei	To feel all types of sensation
2.	Vaai	For knowing taste
3.	Kan	For vision
4.	Mookku	For knowing the smell
5.	Sevi	For hearing

#### **3. III. 2. PULANALARITHAL (EXAMINATION THROUGH THE SENSES)**

**Table: 37. Information about Pulanal Arithal**

<b>S.No</b>	<b>PULAN</b>	<b>RESPECTED ORGAN</b>
1.	Hearing	Ear
2.	Vision	Eye
3.	Taste	Tongue
4.	Sensation	Skin
5.	Smell	Nose

### 3.III.3.VINATHAL (INTERROGATION)

The physician should interrogate the patient or his friends or relatives regarding his illness in detail. He should examine the organs with his hands and interrogate the patient about the condition of the five senses, the symptoms manifested, the duration of illness and the onset of illness.

### 3.III.4.ENVAGAI THERVUGAL (EIGHT FOLD EXAMINATION):

The eight such diagnostic methods, collectively referred to as 'Envagai (eight type) Thervugal (examination)' in Siddha system.

"அகத்துறு நோயை கரத்தாம லகம்போல்  
பகுத்தறிவீர் நாடிப் பரிசம் - தொகுத்த நிறம்  
கட்டுவகைச் சொல்மொழிக் கண்ட மல மூத்திரம் நா  
எட்டுவகை யாலு மறிவீர்"

- அகத்தியர் வைத்திய சிந்தாமணி வெண்பா - 4000

According to Agathiyar Vaithiya Chintamani Venba – 4000, the Envagai thervu includes Naadi (Pulse), Sparisam (Touch & Palpation), Niram (Color), Mozhi (Voice), Vizhi (Eyes), Malam (Faeces), Moothiram (Urine) and Naa (Tongue).

"நாடிப்பரிசம் நாநிறம் மொழிவிழி  
மலம் மூத்திரமிவை மருத்துவராயுதம்"

- தேரையர்

"மெய்குறி நிறந்தொனி விழிநாவிருமலம் கைக்குறி"

- தேரையர்

As per Saint Theraiyar, the eight methods of diagnosis are Naadi (Pulse), Sparisam (Touch & Palpation), Naa (Tongue), Niram (Color), Mozhi (Voice), Vizhi (Eyes), Malam (Faeces) and Moothiram (Urine).

"பாரீர்நாடி யறிந்து உணர்ந்து பரமன் செயலும் பிணிமுறையும்  
நீரேயோடு மலசலமும் நிறமுங் குணமு முகக்குறியும்  
சாரே யிணங்குங்குழல் மடவீர்காலன் றேகம் வயதிளமை  
தேரேயறியுமுகநாடி நெறிங்குறியுஞ் செறியுஞ் சொல்வோமே"

-பதினெண் சித்தர் நாடி சாத்திரம்

According to Pathinen Siddhar Naadi Sathiram, the eight methods of diagnosis are Naadi (Pulse), Malam (Faeces), Salam (Urine), Niram (Color), Gunam (Character), Mugakuri (Face appearance), Thegam (Constitution) and Vayathu (Age)

“தொகுக்கலுற்ற அட்டவிதப் பரீட்சை தன்னை  
துலக்கமுரும் பண்டிதரே தெளிவதாகப்  
பகுக்கறிய நாடியை நீ பிடித்துப் பாரு  
பகர்கின்ற வார்த்தையைப்பார் நாவைப்பாரு  
வகுக்கரிய தேகமதைத் தொட்டுப்பாரு  
வளமான சரீரத்தின் நிறத்தைப் பாரு  
சகிக்கரிய மலத்தைப்பார் சலத்தைப் பாரு  
சார்ந்தவிழி தனைப்பார்த்துத் தெளிவாய்க் கானே

- கண்ணுசாமிப் பரம்பரை வைத்தியம்

According to Kannusamy Parambarai Vaithiyam, the eight methods of diagnosis are Naadi (Pulse), Vaarthai (Speech), Naa (Tongue), Thodu unarvu (Touch sensation), Niram (Color), Malam (Faeces), Salam (Urine) and Vizhi (Eyes).

“நாடியால் முன்னோர் சொன்ன நற்குறிகுணங்களாகும்  
நீடிய விழியினாலும் நின்ற நாட்குறிப்பினாலும்  
வாடிய மேனியாலும் மலமோடு நீரினாலுஞ்  
சூடிய வியாதி தன்னைச் சும் பெற வறிந்து சொல்லே”

-அகத்தியர் வைத்திய ரத்தின சுருக்கம்

According to Agathiyar Vaithiya Rathina Churukkam, the eight methods of diagnosis are Naadi (Pulse), Vizhi (Eyes), Kurugunam (Signs), Naatkurippu (Chronology), Meni (Constitution), Malam (Faeces), and Neer (Urine).

“அட்டமாங்கிரிகடன்னை யறிந்து நீயுணரவேண்டில்  
வட்டமாழகங்கள்பல்லும் வாயதில்நாக்குங்காயங்  
கட்டருமலங்கள் கைதனில்நாடிதானுந்  
திட்டமாயறிந்துசெய்யுந் திறமுள்ளவயித்தியறாமே”

- பரிபூரண நாடி

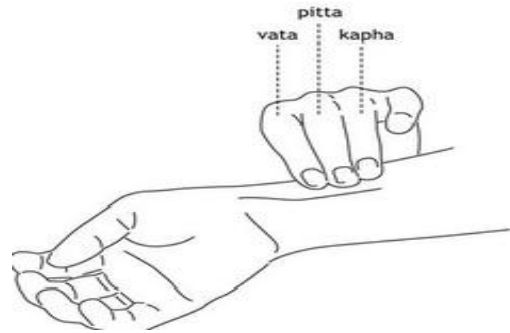
According to Paripoorana Naadi, the eight methods of diagnosis are Mugam (Face), Pal (Teeth), Vaai (Mouth), Naakku (Tongue), Kaayam (Constitution), Irumalam (Urine and Faeces) and Naadi (Pulse).

“திருமறை முனிவன் கூறும் வாகடச் செய்கைதன்னில்  
வருபல வியாதியான வகையறி குவதே தென்னில்  
உருவறு நாடி யாலு மொண்முக மலநீ ராலும்  
தெரிவிழி நாவினாலும் தந்தலக் கணத்தி நாலும்”

- தன்வந்திரி வைத்தியம்

According to Dhanvanthiri Vaithiyam, the eight methods of diagnosis are Naadi (Pulse), Mugam (Face), Malam (Faeces), Neer (Urine), Vizhi (Eyes), Naa (Tongue) and Pal (Teeth).

### 1. NAADI (PULSE):



#### Formation of Naadi:

“இருப்பான நாடி எழுபதோ டீரா  
ஈரமான தேகத்தில் ஏலப் பெருநாடி  
ஒக்கதசமத்தொழிலை ஊக்கதச வாயுக்கள்  
தக்கபடி என்றே சாரும்”.....

- கண்ணுசாமியம்

In our body there are 72,000 of total blood vessels and nerves etc. they are spread like a network system. Among these, ten Naadis are considered as vital. The ten Naaadis are induced by the ten Vaayus to do their functions. Among the ten naadis, the first three Naadis (Idakalai, Pinkalai, Suzhumunai) are most important. The three basic Naadi of Idakalai, Pingalai, and Suzhimunai functions with the help of the three vayus Abanan, Pranan, and Samanan respectively, in the combination of

Idakalai	+	Abanan	=	Vatham
Pingalai	+	Pranan	=	Pitham
Suzhimunai	+	Samanan	=	Kabam



Aagayam unites with Vaayu and become the principle of Vatham, the principles of Theyu become principles of Pitham, Piruthivi unites with Appu and becomes the principle of kabam.

**Places for feeling pulse:**

“தாதுமுறைகேள் தனித் தகுதிச் சந்தோடு  
ஓதறு காமிய முந்திநெடு மார்பு  
காது நெடுமூக்குக் கண்டம் கரம்புருவம்  
போதறு முச்சிபுகழ் பத்தும் பார்த்திடே”

-திருமூலர் நாடி நூல்

According to Thirimoolar Naadi Nool, Ten places are mentioned as important to feel the pulses, they are

1. Inner side of the ankle (Kuthikaal)
2. Genitals (Kaamiyam)
3. Umbilicus (Unthi)
4. Chest (Maarbu)
5. Ears (Kaathu)
6. Nose (Mookku)
7. Neck (Kandam)
8. Hands (karam)
9. Eyebrows (Puruvam)
10. Centre of the scalp (Uchi)

But all Siddhars say that pulse on the hands is the best to feel.

**Method of Naadi felt:**

The life force has three components Vatham, Pitham and Kabam which are felt over the radial artery one inch proximal from the crease of the wrist in the anterior aspect. It is usually felt using the pulp of index, middle and ring fingers placed abutting each other.

“குறியாய் வலக்கரங் குவித்த பெருவிரல்  
வறியா யதன்கீழ் வைத்திடு மூவிரல்  
பிரிவாய் மேலேறிப் பெலத்தது வாதமாம்  
அறிவாய் நடுவிர லமர்ந்தது பித்தமே

- திருமூலர் நாடி

“கரிமுக னடியை வாழ்த்திக்  
கைதனில் நாடி பார்க்கில்  
பெருவிர லங்கு லத்தில்  
பிடித்தடி நடுவே தொட்டால்  
ஒருவிர லோடில் வாதம்  
உயர்நடு விரலிற் பித்தம்  
திருவிரல் மூன்றி லோடில்  
சிலேத்தும நாடி தானே

- அகத்தியர் நாடி

According to Thirumoolar Naadi and Agathiyar Naadi, feel the pulse on the hand one inch below the the thumb through the three fingers, the index finger indicates Vatham, the middle finger indicates Pitham and the ring finger indicates Kabam.

#### **The measure of the Naadi:**

The flow of blood in the vessels creates waves in the blood stream. The soul or the life factor indicates the nature of the body through the pulse in three different Mathirai.

"அரைந்தார் முனிவர் யளவுகேள் தோற்றும்  
விரை கோதுமையாம்வியந்து"

- கண்ணுசாமியம்

“செய்கின்ற நாடி பெருவிரலின் மேலாய்  
திருந்திழை மூன்றங்குலத்தி னடுவ தாக  
தைகின்ற கோதுமை யரிசி போலச்  
சர்வம் வியாபித்திருக்குமதுதான் கூறில்”

- குணவாகட நாடி

The one Mathirai indicates the measure of one full wheat grain. Some authors feel that one Mathirai is defined as the time taken for one second or blinking of eyes at one time. According to Siddha literature Mathirai is the time taken by the pulse to swell and shrink to the size of full wheat grain.

“வழங்கிய வாதம் மாத்திரையொன் றாகில்  
தழங்கிய பித்தந்தன் னிலரை வாசி  
அழங்குங் கபந்தா னடங்கியே காலோடில்  
பிறங்கிய சீவர்க்குப் பிசுகொன்று மில்லையே”

- குணவாகட நாடி

“வளி வன்னியைக்கு வழங்கிடு மாத்திரை  
ஒன்றரை காலா யோதினர் சித்தரே”

- கையெழுத்துப்பிரதி

“மெய்யளவு வாதமொன்று  
மேல்பித்தமோரரையாம்  
ஐயங்காலென்றே அறி”

- கண்ணுசாமியம்

According to above literatures, the measure of Vatham, Pitham and Kabam are as one, half and quarter Mathirai.

#### **The pulse play:**

“வாகிலன்னங் கோழி மயிலென நடக்கும் வாதம்  
ஏகிய வாமையட்டை யிவையென நடக்கும் பித்தம்  
போகிய தவளை பாம்பு போலவாம் சேத்துமந்தான்  
ஆகிய நாடி மூன்றும் மர்ந்திடிற் சன்னியாமே”

- நோய் நாடல் முதல் பாகம்

According to Noi Naadal I Part, movement of Vatham like gait of hen, peacock and swan, Pitham like gait of tortoise and leech, Kabam like gait of frog and serpent.

“ஆகிய வாதநாடி யன்னம்போற் குயிலைப்போலும்  
ஏகியபித்தநாடி அழிலாமை யட்டை போலும்  
போகிய சிலேஷ்ம் நாடிபொல்லாத தவளை பாம்புபோலும்  
பாகுடன் முனிவர்தாமும் பாடினார் நாடிதானே”

- நோய் நாடல் முதல் பாகம்

According to Noi Naadal I Part, movement of Vatham like swan and nightingale, Pitham like as tortoise and leech, Kabam like as frog and serpent.

## 2. SPARISAM (EXAMINATION OF TOUCH SENSE):

“வெம்மை குறைந்தாலு மிகுந்தாலும் வாதபித்தம்  
தம்மை நிரைநிரையாய்ச் சாற்றுவார் - வெம்மையன்றி  
சீதமும்அவ் வாறாகில் சிலேட்டும மொன்றுதொந்த  
மீதமும்அவ் வாறாகு மேய்”

- அகத்தியர் வைத்திய சிந்தாமணி வெண்பா- 4000

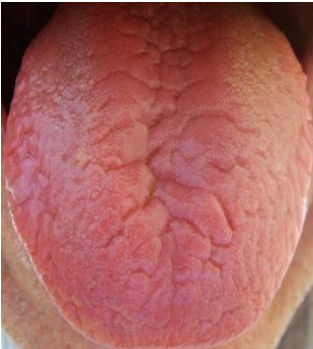
According to Agathiyar Vaithiya Chindamani Venba - 4000, decreased heat indicates Vatha disease, increased heat indicates Pitha disease and chillness indicates Kaba disease.

“நேயமுடனே வாதத்தின் தேசந்தானும்  
நேர்மையாய்க் குளிர்ந்து சில விடத்திலே தான்  
மாயமுட னு ட்டணமுந் துடிதுடிப்பு  
மருவுதலாம் பித்தத்தின் தேகந் தானும்  
தோயவே வுட்ணமதா யிருக்குந் தெளிவாய்  
சேத்துமத்தின் தேகமது குளிர்திருக்கும்  
பாய தொந்த தேகமது பலவாறாகும்  
பரிந்து தொட்டுத் தேகத்தை பார்த்துப் பேசே  
-கண்ணுசாமி பரம்பரை வைத்தியம்

According to Kannusami Parambarai Vaithiyam, In Vatha disease, Vatha regions of the body felt chill and other part of the body felt hot. In Pitha disease, we can feel heat. In Kaba disease body felt chill. In Thontha disease, we can feel altered sensations.

## 3. NAA (EXAMINATION OF TONGUE):

VATHAM



PITHAM



KABAM



"முள்ளாய் வெடித்து கருத்தான் முன்பின் வெளுத்து  
தள்ளாநீ ருண்டோ சேர்ந்தால் பசந்தால் - எல்லாம்  
நடுவாம் பலபலவாம் நற்சன்னி முன்னோய்  
ஓடுநீரில் நாவின்னோது"

-அகத்தியர் வைத்திய சிந்தாமணி வெண்பா - 4000

As per Agasthiyar Vaithiya Chindamani Vanba -4000, fissured and black tongue represent vitiated Vatha humour, pallor represents vitiated Kaba humour, green colour represents Pitha humour and mixed appearance of these features resembles Sanni noi.

"பலமான ருசியறியும் நாவின் கூற்றைப்  
பகர்கின்றேன் வாதரோகி யின்றன் நாவு  
கலமாக வெடித்து கறுத்திருக்கு முட்போல்  
கண்டு கொள்வாய் பித்தரோகியின்றன் நாவு  
நலமுற சிவந்து பச்சென்றிருக்கும் நட்பிலோ  
சிலேத்துமரோகி யின்றன் நாவு  
தலமதனிலுற்றமுதி யோர்கள் சொன்ன  
தன்மையடி தடித்து வளுத்திருக்கும்பாரே"

-கண்ணுசாமி பரம்பரை வைத்தியம்

As per Kannusami Parambarai Vaithiyam, In Vatha derangement, tongue will be cold, rough, furrowed and tastes pungent. In Pitha derangement, it will be red or yellow and bitter taste will be sensed. In Kaba derangement, it is pale, sticky and sweet taste will be sensed. In depletion of Thontham, it will be dark with raised papillae and dryness.

Examination of tongue also includes the salivary examination. The following stanza describes salivary examination.

"எச்சிற் பரிவாயிளநீர்பால் வெண்ணெயனை  
யெச்சிற் பரிவா யிலகுநுரை - யெச்சிற்  
களியடைமா நன்றுமுதற் நண்ணான்கு முன்னிக்  
களியடைமா மெவுபிட கா"

- சிகிச்சாரத்ன தீபம்

### 3. NIRAM (EXAMINATION OF COMPLEXION):

“உரைத்தகற் பான்வாத ரோகிபித்த ரோகி  
அரைத்தமஞ்ச னைக்குளித்தோன் ஆவான் - இரத்தம்  
குளித்தவனு மாவான் கொடும்சிலேத்தும ரோகி  
வெளுத்திடுவான் தொந்தரோகியெ”

-அகத்தியர் வைத்திய சிந்தாமணி வெண்பா - 4000

According to Agathiyar Vaithiya Chindamani, In Vatha, Pitha and Kaba vitiations, the colours of the body like as yellow, red and pale.

“மூன்றாகும் வாதபித்த சிலேத்து மத்தால்  
மிகுந்தமுறத் தொந்தித்த ரோகி தேகம்  
தோன்றாத சீதய வஷ்ணங் காலமூன்றுந்  
தொகுத்தேன்யான் திரேகத்தி னிறத்தைக் கேளு  
ஊன்றாத வாதவுடல் கறுத்தக் காணும்  
ஊரியபித்த முடல் சிவப்புப் பசுமைகாணும்  
போன்றாத வையவுடல் வெண்மை தோன்றும்  
பொருந்துந்தொந்த ரோகவுடற் கிவற்றை யொக்கும்  
-கண்ணுசாமி பரம்பரை வைத்தியம்

According to Kannusami Parambarai Vaithiyam, In Vatha, Pitha and Kaba vitiations, the colours of the body like as black, reddish green and white. In thontha constitution, the colour of the body will be associated with combination of two humours.

“பனைவாத தேகநிறங் கறுத்து நிற்கும்  
பைத்தியதேக நிறமஞ்சள் சிவப்பதாமே  
தாமே சிலேட்டு மதேகநிறம் வெளுப்பு தான்  
தொந்தேகம் இருந்தால் விதமாயாநிற்கும்”

-பதினென் சித்தர் நாடி சாத்திரம்

According to Pathinen Siddhar Naadi Nool, In Vatha, Pitha and Kaba vitiations, the colours of the body like as black, yellowish red and white. In thontha constitution, the colour of the body will be associated with combination of two humours.

#### 4. MOZHI (EXAMINATION OF SPEECH):

“பலரோகி வார்த்தைப் பலவிதமாம் வாதத்  
தலைரோகி வார்த்தைச் சமமாகும் - நிலைகடந்த  
பித்தரோ கிக்குடயர்ந்த பேச்சுண்டாம் சிலேட்டுமந்தான்  
சத்தம்ஈ னச்சுரமாம் தான்”

- அகத்தியர் வைத்திய சிந்தாமணி வெண்பா - 4000

According to Agathiyar Vaithiya Chindamani, In Vatha, Pitha and Kaba vitiations, the voice like as normal,high pitched and low pitched respectively. In thontha vitiation, the voice will be mixture of two humours.

“பார்ப்பதான் வாதரோகி யின்றன் வார்த்தை  
பக்குவமாய்ச் சமசத்த மாயிருக்கும்  
சேர்ப்பதுதான் பித்தரோகியின்றன் வார்த்தை  
செப்பக்கோள பெலத்துமே யுறத்திருக்கும்  
ஏற்பதுதான் ஐயரோகி யின்றன் வார்த்தை  
யெளிதாகச் சிறுத்திருக்குமியல்பிதாகும்  
கேசற்கவே யிம்முன்றுந் தொந்தமாகில்  
கூசாமற் பலவிதமாய் பேசுவாரே

-கண்ணுசாமி பரம்பரை வைத்தியம்

According to Kannusami Parambarai Vaithiyam, In Vatha, Pitha and Kaba vitiations, the voice like as normal,high pitched and low pitched respectively. In thontha vitiation, the voice will be mixture of two humours.

“மாமயிலே சத்தமது அறிய வேண்டில்  
வாதரோகிச தொணியாய் வார்த்தை பேசும்  
ஈமமுள்ள பித்தந்தான் இறைந்த கூறும்  
இயம்பிடும் சிலேத்தும ரோகிக்கீனசத்தம்  
நாமுரைத்தோம் தொந்த ரோகிக்குந் தானிந்த  
நால்விதமாய் மொழிந்த சத்தம் நயந்து காணே

-பதினென் சித்தர் நாடி சாத்திரம்

According to Pathinen Siddhar Naadi Nool, In Vatha, Pitha and Kaba vitiations, the voice like as normal,high pitched and low pitched respectively. In thontha vitiation, the voice will be mixture of two humours.

## 5. VIZHI (EXAMINATION OF EYES):

“கண்கறுத்து நீரோடில் காலாம் நடுவாகில்  
கண்பசக்கும் சொக்கும் கடையாகில் - கண்பீளை  
சாடி வெளுக்குமே சன்னிவாத பித்தமுமென்  
றோடியகா மாலை பசக்கும்”

- அகத்தியர் வைத்திய சிந்தாமணி வெண்பா - 4000

As per Agathiyar Vaithiya Chindamani Vanba – 4000, In Vatha vitiation eyes turn black and tears shed. In vitiation of Pitham humour, yellowish discolouration occurs. In vitiation of Kabam, the eyes turn white. In Sanni and Jaundice, the eyes turn to yellow.

“உண்மையாய் கண்கள்குறிப் பதைக்கேள் வாதம்  
உற்றவிழி கறுத்துநொந்து நீருங் காணும்  
தண்மையிலாப் பித்தரோகி யின்றன் கண்கள்  
சார்பாக பசுமைசிவப் பேறுங் காணும்  
வண்மையிலா வையரோகி விழிகள் தானும்  
வளமான வெண்மைநிற மேதா நாதம்  
திண்மையிலாத் தொந்தரோகி யின்றன் கண்கள்  
தீட்டுவாய் பலநிறமென் றறைய லாமே”

-கண்ணுசாமி பரம்பரை வைத்தியம்

As per Kannusami Parambarai Vaithiyam, in Vatha vitiation, eyes turn black and tear shed. In Pitha vitiation, eyes turn greenish red. In Kabam vitiation, eyes turns white. In thontha vitiation, eyes turn mixed colour.

“காணுகின்ற வாத ரோகிக்கு கண்கள்  
கருநிறமாய் நொந்துமிகத் தண்ணீர்பாயும்  
பூணுகின்ற பித்தரோகிகடி மஞ்சள் போலிருக்கும்  
சிவப்பு நிறப்பொலிவு தோன்றும்”

- பதினென் சித்தர் நாடி சாத்திரம்

According to Pathinen Siddhar Naadi Sathiram, the eyes turn black, tear shed with pain. In Pitha vitiation, eyes turn yellowish. In Kabam vitiation, eyes turn shines.



## 6. MALAM (EXAMINATION OF FAECES):

“கறுத்தமல பந்தமலங் காலாகும் பித்தம்

சிறுத்தமுட் டிணம்செம்மை சேரும் - பொறுத்தொருக்கால்

சீதமலந் தில்லையுமாம் சேர்ந்தபல ரோகியாம்

மீதமலம் எண்ணிறமுமே”

-அகத்தியர் வைத்திய சிந்தாமணி வெண்பா - 4000

According to Agathiyar Vaithiya Sinthamani Venba – 4000, in Vatha vitiation, the faeces are black and hard. In Pitha vitiation, the faeces are hot and red. In Kaba vitiation, the faeces are cool and watery. In Thontha vitiation, the faeces are mixture of two humours.

“ஒக்குமே வாத நோய் மலத்தைப் பார்க்கில்

உகந்தமலம் கறுகியே கறுத்திருக்கும்

மிக்கபித்த நோய்மலத்தை யுற்றுப் பார்க்கில்

மிகுந்தசிவப்புடன் பசுமை தானும் தோற்றும்

மக்குவளை மனேகே ளைய ரோகம்

மலமதுதான் வெண்மைனிற மாயிருக்கும்

பக்குவமா யிம்மூன்றும் தொந்திப் பாகில்

பகருமின் நிறங்கள்வகை பரிந்து காணும்

-கண்ணுசாமி பரம்பரை வைத்தியம்

As per Kannusami Parambarai Vaithiyam, in excacerbated Vatham, faeces are hard, dry and black in colour. In Pitham vitiation, faeces are yellow. In Kabam vitiation, faeces are pale.

## 7. MOOTHIRAM (EXAMINATION OF URINE):

"மிகத் தடிப்பும் மிகத் தேறலும் இன்றேனில்

சுகத்தைத் தரும் மெய்ச் சுபாவ நீர் நன்றே"

- தேரையர் நீர்க்குறி வைத்தியம்

According to Theraiyar Neerkuri Vaithiyam, if the urine is not denser without sediment, it is natural and good. Urine examination in Siddha system broadly consists of two categories Neerkkuri and Neikkuri.

## 8. NEERKKURI:

### THE COMMON NATURE OF URINE:

"வந்த நீர்க்கரி எடை மணம் நுரை எஞ்சலென்

றைந்தியலுளவவை யறைகுது முறையே"

- தேரையர் நீர்க்குறி வைத்தியம்

According to Theraiyar Neerkuri Vaithiyam, the examination of urine as follows,

1. Colour (Nirai)
2. Weight and density (Edai)
3. Odour (Manam)
4. Froth (Nurai)
5. Sedimentation (Enjal)

### COLOUR OF THE URINE:

"பீதம் செம்மைபைங் கருமை வெண்மையென்

றோதங்கொழுமையை யொத்துகு நீரே"

- தேரையர் நீர்க்குறி வைத்தியம்

There are five colours in urine as follows,

1. Yellow
2. Red
3. Green
4. Black
5. White

There six varieties of urine in yellow colour, four varieties in red, five varieties in green, four varieties in black and two varieties in white.

**Table: 38. Information about Nature of Urine**

DISEASE	NATURE OF URINE
Vatha disease	Crystal clear
Pitha disease	Yellow colour
Sanni noi	Red colour
Kaba Disease	Frothy and White colour
Proper digestion	Citrus aurantium (Thurunji) fruit colour
Indigestion	Urine is like water coming from hey soaked in water or rain

Over heat	Mixed colour of yellow and red or Citrus medica (Kattu naarathai) fruit or colour of fire with flames.
Blood pressure	Mixed colour of red and black
High blood pressure	Dark red with dint of rose flower
Very high blood pressure	Mixed colour of black with a light red colour
Excessive chillness (Seethala neer)	Black with a tint of green colour
Toxicity with cold	The colour of the urine resembles sky
Too much of coldness	Bluish tint in the urine. This may cause Vatha diseases to old persons and childrens.
Spoil the nature of Vatham, Pitham and Kabam	Bluish tint with dense
More harm to the nature of Vatham, Pitham and Kabam	Green colour of leaves
Jaundice	Saffron with some black tint
Impure blood	Reddish tint
Filthy blood	Greenish tint
Vitiation of Slethmam and Vatham	Black colour with white tint. It happens in old people and persons suffering from Tharunasuram (a kind of fever).
Suththa seethala neer	White and crystal clear
Slethma kothippu neer	Pure white
Tuberculosis	Colour of milk
Ulcer in the uterus	Urine passed with pus and bad odour
Kabam and Delirium	Urine is like semen
Kodiya veppanoi neer	Urine is like milk and butter milk
Weakness of the kidneys	Urine is like water
Bad prognosis	Urine is dense or like ghee

## PROGNOSIS WITH COLOUR OF URINE:

“மாணிக்கம் பால்பிரசமஞ்சனிஃது பிர  
மாணிக்கம் பால்வரிசை மாறாநீர் - மாணிக்க  
முத்தமமாதி யொரு நாலு மந்தமுனே  
யுத்தம மாதிமதி யும்”

- தேரன் யமகம்

According to Theran Yamagam, the colour of the urine can be indicate the prognosis of disease as follows:

**Table: 39. Information about Prognosis of Disease**

PROGNOSIS OF DISEASE	COLOUR OF THE URINE
Very bad	The urine is red like a ruby
Bad	The urine is white like milk
Not very good	The urine is like the colour of honey
Good sign	The colour of the urine is yellow

## ODOUR IN URINE:

“ஓதமணத்தோ டவ்வோத மொத்தி றங்கும்  
சீதளங் கம்மிய தெகிகளுக்கே”

- தேரையர் நீர்க்குறி வைத்தியம்

According to Thaeraiyar Neerkuri Vaithiyam, For persons with diminished Seethalam, the urine will pass with the smell of flood besides with the colour and dense of flood also.

**Table: 40. Information about Smell pf the Urine**

DISEASE	SMELL OF THE URINE
Ulcers in bladder and urethra	Very bad odour
Uttina roga neer	Smell of tamarind
Excess of blood in the body	Smell of blood
Vitiation of Pitham	Smell of urine resembles the urine of black stag
Degeneration of the body gluten	Smell of raw fish

## FROTH IN URINE:

Causes for frothy urine:

"பந்தமெய்ப் பசையிளகப்படும் பருவத்

தந்தர்ப் பூதமாய் அனில மூத்திரத்தில்

சம்பந்தப்படும் ததிநுரைப் புனலே"

- தேரையர் நீர்க்குறி வைத்தியம்

During the time when the five Kabam namely, Avalambagam, Kilethagam, Tharppagam, Bothagam and Santhigam becomes degenerated vayu will unite in the urine. At that time, frothy will be manifested.

**Table: 41. Information about Froth**

DISEASE	FROTH
Degenerating the three humour	Froth of the urine passed will be less

## SEDIMENTATION IN URINE:

**Table: 42. Information about Sedimentation In Urine**

DISEASE	SEDIMENTATION IN URINE
Elumburukki noi	Sediment like lime
Megavettai	Sediment like ghee

## NEIKKURI (OIL ON URINE SIGN):

“அருந்து மாறிரதமும் அவிரோதமதாய்

அஃகல் அலர்த்தல் அகாலவூன்தவிர்ந்தழற்

குற்றள வருந்தி உறங்கி வைகறை

ஆடிகலசத் தாவியே காதுபெய்

தொரு முகூர்த்தகலைக்குட்பட்டு நீரின்

நிறக்குறி நெய்க்குறி நிருமித்தல் கடனே”

- தேரையர் நீர்க்குறி வைத்தியம்

Neikkuri or Oil on urine sign is a unique method in Siddha system of medicine to arrive at the diagnosis and prognosis of the disease conditions. In this test an oil drop preferably of sesame oil is instilled over the surface of the urine sample surface and the spreading pattern of the oil drop is observed over a minute and recorded.

**Method and principles:**

“நிறக்குறிக் குரைத்த நிருமாண  
 சிறக்க வெண்ணெய்யோர் சிறுதுளி நடுவிடுத்  
 தென்றுறத் திறந்தொலி ஏகாதமைத்ததி  
 னின்றதிவலை போம் நெறிவிழியறிவும்  
 சென்றது புகலுஞ் செய்தியை யுணரே”

It is preferably collected the first urine voided early in the morning with the patient having no discrepancy in the diet containing all the six tastes taken the previous day. The urine should be collected in clay vessels and put in sunlight. It should be kept in a place where there is no wind which may cause the urine to stir. One drop of sesame oil should be instilled on the centre of the urine. The changes that take place in the urine should be observed carefully to diagnose the ailments. It should be examined within 1 1/2 hours. In case of exigency, the rules may be relaxed. If the drop of oil dropped into it, immediately spreads, it indicates good prognosis. If the drop is constant without spreading, it indicates bad prognosis.

**Table: 43. Information about Neikkuri**

DISEASE	NEIKKURI
Vatham	Extends like a snake
Pitham	Circular
Kabam	Pearl without any movement
Combination of Vatham and Pitham	Tip of a gross
Combination of Kabam and Vatham	The oil drop spreads like Kanthuru
Combination of Pitham and Kabam	The oil drop seems to be half on the surface of the urine and half underneath
Sanni Vatham	The oil drop put on a red colour urine completely drowns in the urine
Thontha thodam	Ring in the snake, snake in the ring, pearl in the snake and pearl in the ring (Union of two humours)
Good prognosis	Round and slowly extends
Heat in the body	The oil drop spreads speedily and takes the shape of circle

Impure blood	Elongated like spikes
No harm to life	Conch-shell and throne shape
No disease at all	Bud of Jasmine or lotus flower shape
No cure for the patient	Bubbles up and spreads to the entire surface of the urine
Better to leave the patient without treatment	Oil scatters like mustard seeds
Sign of death	Oil mingles with the urine
Disease cannot be cured	The drop of oil drowns in the urine completely, Arrow, Sword, Iron pestle, Trident, Pot, Betel leaf, Bullock, Lion, Elephant, Tiger, Goat, Pig, Man, Snake, Tortoise, Bird, Jackal, Monkey, Donkey, Cat and Scorpion.
Bad prognosis	The drop of oil speedily spreads like a sieve with several hollow spots
Good prognosis	Conch-shell, Shape of the Goddess Saraswathi, Bow and Flag

### 3.III.5.MANIKADAI NOOL (WRIST CIRCUMETRIC SIGN)

"கமலக்கை மணிக்கையில் கயறு சூத்திரம்

விமலனே நோக்கியே வேடமாமுனி

திமிலாம் பிணியது சேரச் செப்பியே

அமலனாமுனிக்கு முன்னிருளிச் செய்ததே"

- பதினென் சித்தர் நாடி நூல்

Manikadainool is one of the method of diagnosing the diseases (preponderance) with the help of measuring the wrist circumference with the help of a thread. This methodology was propounded by sage Agathiar in his literary classic 'Soodamani Kayaru soothiram'. Manikkadai Nool is a parameter which throws some light over the predilection of an individual to have particular kind of disease groups. These individuals can stay wary of the possibility of acquiring certain conditions and keep themselves from the factors which could result in such conditions. It is a parameter to measure the wrist circumference of an individual by means of an inelastic thread and expressing it in terms of that particular individual's finger breadths.

## METHOD OF MEASURING MANIKADAI NOOL:



“மணிக்கடை நால்விரல் தள்ளி வண்மையாய்  
தணிக்கிடைக்கயறு போட்டளந்து பார்க்கையில்  
கணித்திடும் விரல்தனைக் கண்டு சொல்லவே  
பிணித்திடும் நோய்களைப் பிரித்துரைக்குமே”

- பதினென் சித்தர் நாடி நூல்

The wrist circumference is measured four fingerbreadths proximal to the crease at the junction of the palm and forearm. This is denoted in units of fingerbreadths of individual's own finger breadth measurements to be examined. After measuring the circumference the number of fingerbreadths has to be enumerated by measuring from the index to little finger every time. Measurement is made starting from and through the middle crease of the index finger. The thread is held taut on a table over which the fingers on 'index to little' order should be placed and the measurement should be noted.

If the Manikadai nool is 11 fbs, the person will be stout and he/she will live a healthy life for many years. If the Manikadai nool measures between 4 to 6, it indicated poor prognosis of disease and the severity of the illness will be high and it leads to death.



**Table: 44. Information about Manikkadainool**

<b>FBS</b>	<b>DISEASES</b>
10 fbs	Throbbing pain in chest and limbs, gastritis and ulcer result.
9 $\frac{3}{4}$ fbs	Fissure, dryness and cough will be resulted
9 $\frac{1}{2}$ fbs	oedema, increased body heat, burning sensation of eyes, fever, Mega Noi and anorexia
9 $\frac{1}{4}$ fbs	Dysuria, insomnia, sinusitis and burning sensation of eyes.
9 fbs	Impaired hearing, pain around wrist, thigh pain, unable to walk.
8 $\frac{3}{4}$ fbs	Increased body heat, skin diseases due to toxins, abdominal discomfort, cataract and sinusitis.
8 $\frac{1}{2}$ fbs	Leucorrhoea, venereal disorder and Infertility will occur.
8 $\frac{1}{4}$ fbs	Stout and painful body,. Headache, sinusitis and toxins induced cough
8 fbs	Abdominal discomfort, gastritis, anorexia and venereal diseases.
7 $\frac{3}{4}$ fbs	Piles, burning sensation of limbs, headache, and numbness occur. Within 2 years cervical adenitis and epitasis results.
7 $\frac{1}{2}$ fbs	Osteoporosis, abdominal discomfort, burning sensation of eyes, increased body temperature. Within 6 days all the joints of limbs presents a swelling.
7 $\frac{1}{4}$ fbs	Lumbar pain, increased pitha in head. Anemia, eye pain, odema and somnolence
7 fbs	Pitham ascends to head, haemostasis, phlegm, burning sensation of limbs and constipation.
6 $\frac{3}{4}$ fbs	Eye ache, dizziness, testis disorder. Within 3 years it causes anuria, pain and burning sensation over limbs, facial sweating results
6 $\frac{1}{2}$ fbs	Thirst, anorexia, increased body heat and vatham results.
6 $\frac{1}{4}$ fbs	Diarrhea, belching, vomiting, and mucus dysentery
6fbs	Reduced weight, phlegm in chest. It results in death within 20 days.
5 $\frac{3}{4}$ fbs	Delirium, dizziness, loss of consciousness. It results in death even if the patient takes gruel diet.
5 $\frac{1}{2}$ fbs	Severity of illness is increased. Toxins spread to the head. Tooth darkens. Patient will die 10 days.
5 $\frac{1}{4}$ fbs	Patient seems to be sleepy and death results on the next day.
5fbs	Pallor and dryness of the body. Kabam engorges the throat the person will die.
4 $\frac{3}{4}$ fbs	Dryness of tongue and tremor present.
4 $\frac{1}{4}$ fbs	Tremors, Weakness of limbs and darkening of face occurs, Finally death results in two days.
4 fbs	Pedal oedema will be present. Patient will die in 5 days.

### 3.II. SIDDHA PATHOLOGY

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According to Siddha System, diseases occur due to our deeds of the former births or in the present birth. Human body sustains the state of healthy living via keeping the Three Humours (Vatham, pitham and Kabam) in equilibrium, influenced by dietary habits, daily activities and the environment around. The three humours represent the basic elements. In case the equilibrium is disturbed, it leads to a condition known as disease. There can either be a decrease or increase in the balance.

Disease is also known by other name viz sickness, distemper, suffering, affliction, distress of mind, chronic disease and dreadful illness. Diseases are of two kinds;

1. Pertaining to the body
2. Pertaining to the mind

#### 3.II.1. CAUSES FOR DISEASE:

Excepting the disease caused by our previous births, the disease is normally caused by the disparities in our food habits and actions. This has been rightly quoted in the following verses by Sage Thiruvalluvar

மிகினும் குறையினும் நோய்செய்யும் நாலோர்  
வளிமுதலா வெண்ணிய மூன்று

- திருவள்ளுவர்

The food and actions of a person should be in harmony with the nature of his body. Any increase or decrease in a humour viz., Vatham, Pitham and Kabam leads to the derangement of the humours. The acceptance of food means the taste and quality of the food eaten and a person's ability to digest. 'Action' means his good words, deeds or bad actions. According to Thiruvalluvar, the disease is caused due to the increase or decrease of three humours causing the upset equilibrium.

So disease is a condition in which there is derangement in the five elements, which alters the three humours, reflected in turn in the seven physical constituents. The change could be an increase or decrease in the humours. This shows the following signs as per vitiation of the individual humour.

### நோய் பிறக்கும் வகை

“பிணியினுற் பத்தியைப் பேசுவேன் பிணிமுதல்  
வாதபித் தங்கப் மன்மந்திரி தந்திரி  
வீதமா யுடலரண் மெய்ப்புர வரச்செய்  
முறைசெயு மாதலான் முதற்புர மென்றுட  
கறைகுவ ராரிய ரதன்புரி வாரமா  
நோய்க்கண மிகுதியி னனுகுநுட் பமதாய்ப்  
பேய்க்கண மாமவை பெரும்பசி தாகுமூர்  
வழிநடை வெயின்மழை மலிதணீர் நனைவுடன்  
மந்தமாங் காரமாய் வார்த்தையா டுத(ற்)றுயில்  
வந்தவை விலக்குதன் மாதரைக் கூடுதல்  
வெந்தறு கட்கதம் வீரமாய்ச் சுமத்தலும்  
மலசல பந்தனை வருமித னனமிகப்  
பெலமுறு நோய்களும் பிறப்பதும் நிச்சயம்”

- தேரையர் காப்பியம்

As per Theraiyar, the causes of disease is vitiated Vatham, Pitham and Kabam, increased appetite, increased thirst, excessive hot, anger, constipation, dysuria and polluted water.

### 3.II.2. THINAI (LANDSCAPE WHERE PATIENT LIVE MOST):

**Table: 31. Information about Thinaï (Landscape where the patient live most)**

Thinaï	Diseases inherent to this region	Humours
Kurinchi (Hilly region)	Fever causing anaemia Spleen enlargement	Kabam
Mullai (Pastoral region)	Birth place of many Pitha diseases and diseases like abdominal colic and other Vatha diseases also occurs	Pitham
Marutham (Fertile river bed region)	The nourishing food with all the six tastes never allows such disease to occur.	All the three humours are in equilibrium

Neithal (Coastal region)	It is the place for Prominent Vatha diseases. It affects the liver and the intestine.	Vatham
Paalai (Desert region)	It is the birth place of all diseases caused by the derangement of Vatham, Pitham and Kabam.	All the three humours are affected

### 3.II.3. KAALAM (SEASONAL VARIATIONS)

Changes in elementary conditions of the external world have its corresponding change in the human organs. They are as follows

**Table: 32. Information about Kaalam (Seasons)**

Seasons	Months	Humoral status
Kaar kaalam (Rainy season)	Aavani – Puratasi (Aug 16 – Oct 15)	Vatham ↑↑ Ectopic escalation Pitham ↑ In situ escalation Kabam (--) Restitution
Koothir Kaalam (Post rainy season)	Iypasi –Karthigai (Oct 16 – Dec 15)	Vatham (--)Restitution Pitham ↑↑ Ectopic escalation Kabam (--) Restitution
Munpani Kaalam (Winter season)	Markazhi – Thai (Dec 16 – Feb 15)	Vatham (--) Restitution Pitham (--) Restitution Kabam (--) Restitution
Pinpani Kaalam (Post winter season)	Masi – Panguni (Feb 16 –Apr 15)	Vatham (--) Restitution Pitham (--) Restitution Kabam ↑↑ In situ escalation
Elavenir Kaalam (Summer season)	Chithirai – Vaikasi (Apr 16 – Jun 15)	Vatham (--) Restitution Pitham (--) Restitution Kabam ↑↑ Ectopic escalation
Mudhuvener Kaalam (Post summer season)	Aani – Aadi (Jun 16 – Aug 15)	Vatham ↑ In situ escalation Kabam (--) Restitution

### 3.II.4. QUANTITATIVE CHANGES IN UYIR THATHUKKAL

**Table: 33. Information about quantitative changes in Uyir thathukkal**

<b>Humour</b>	<b>Increased</b>	<b>Decreased</b>
Vatham	Wasting Blackish discolouration Affinity to hot Tremors Distended abdomen Constipation Weakness Insomnia Weakness in sense organ Giddiness Laziness	Body pain Feeble voice Diminished capability of the brain Decreased intellectual quotient Syncope Increased Kabam condition
Pitham	Yellowish discolouration of conjunctiva, skin, urine and faeces Polyphagia Polydypsia Dyspepsia Burning sensation all over the body Decreased sleep	Loss of appetite Cold Pallor Features of increased Kabam
Kabam	Loss of appetite Excessive salivation Diminished activity Heaviness Pallor Cold Decreased physical constituents Dyspnoea Flatulence Cough Excessive sleep	Giddiness Dryness of the joints Prominence of bones Profuse sweating in the hair follicles Palpitation

### 3.II.5. QUANTITATIVE CHANGES IN UDAL THATHUKKAL

**Table: 34. Information about quantitative changes in Udal thathukkal**

<b>Udal thathukkal</b>	<b>Increased</b>	<b>Decreased</b>
Saaram	Loss of appetite Excessive salivation Diminished activity Heaviness Pallor Cold Decreased physical constituents Dyspnoea Flatulence Cough Excessive sleep	Dryness of skin Tiredness Loss of weight Lassitude Irritability while hearing louder sounds
Chenneer	Boils in different parts of the body Spleenomegaly Tumours Pricking pain Loss of appetite Haematuria Reddish eye and skin Leprosy Jaundice	Affinity to sour and cold food Nervous Debility Dryness Pallor
Oon	Tubercular adenitis Venereal diseases Extra growth around neck Cheeks, abdomen, thigh and genitalia	Lethargic sense organs Pain in the joints Muscle wasting in mandibular region, gluteal region, penis and thighs.
Kozhuppu	Identical features of increased flesh Tiredness	Loins pain Spleenomegaly Emaciation

	Dyspnoea on exertion Extra musculature in gluteal region, external genitalia, chest, abdomen and thighs	
Enbu	Excessive ossification and dentition	Joint pain Falling of teeth Falling and splitting of hairs and nail
Moolai	Heaviness of the body and eyes Swollen interphalangeal joints Oliguria Non healing ulcer	Osteoporosis Blurred vision
Sukkilam or suronitham	Increased sexual activity Urinary calculi	Dribbling of Sukkilam/Suronitham or senner during coitus Pricking pain in the testis Inflamed and contused external genitalia

### 3.II. 6. ALTERATION IN REFLEXES (14 VEGANGAL)

There are 14 natural reflexes involved on the physiology of normal human beings. If wilfully restrained or suppressed, the following are resulted.

**Table: 35. Information about alteration in Reflexes (14 Vegangal)**

S.no	Reflexes	Diseases
1.	Vatham (Flatus)	If it is suppressed it leads to chest pain, epigastric pain, abdominal pain, ache, constipation, dysuria and indigestion predominate
2.	Thummal (Sneezing)	If it is restrained, it leads to head ache, facial pain, low back pain and neuritic pain in the sense organ
3.	Siruneer (Urine)	If it is restrained, it leads to urinary retention, urethral ulcer, joint pain, pain in the penis, gas formation in abdomen

4.	Malam (Faeces)	If it is restrained, it leads to pain in the knee joints, head ache, general weakness, flatulence and other disease may also originated.
5.	Kottavi (Yawning)	If it is restrained, it leads to indigestion, leucorrhoea and abdominal disorders
6.	Pasi (Hunger)	If it is restrained, it leads to the tiredness of all organs, emaciation, syncope, apathetic face and joint pain.
7.	Neervetkai (Thirst)	If it is restrained, it leads to the affection to all organs and pain may supervene.
8.	Kaasam (Cough)	If it is restrained, it leads to severe cough, bad breath and heart diseases.
9.	Ilaippi (Exhaustiveness)	If it is restrained, it leads to fainting, urinary disorders and rigor
10.	Nithirai (Sleep)	If it is restrained, it leads to headache, pain in the eyes, deafness and slurred speech
11.	Vaanthi (Vomiting)	If it is restrained, it leads to itching and symptoms of increased Pitham
12.	Kanneer (Tears)	If it is restrained, it leads to sinusitis, headache, eye diseases and chest pain.
13.	Sukkilam (Semen)	If it is restrained, it leads to joint pain, difficulty in urination, fever and chest pain.
14.	Swaasam (Breathing)	If it is restrained, it leads to cough, abdominal discomfort and anorexia.



### 3. REVIEW OF LITERATURE - SIDDHA

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#### 3.I. SUGARANA NILAI (SIDDHA PHYSIOLOGY)

All the existing things in this world and universe around it are made up by the five basic elements namely Piruthivi (Earth), Appu (Water), Theyu (Fire), Vaayu (Air) and Aagayaam (Space) are called the Pancha Bootham (Fundamental Elements).

These elements constituting the human body and other worldly substances are explained as Panchaakaranam. Anyone of these elements cannot act independently by itself. They can act only in co-ordination of the other four elements, the living creatures and non living things are made up of these five elements.

"நிலம் நீர்தீவளி விசும்போடைந்தும்

கலந்தமயக் கமுலகம் இது"

- தொல்காப்பியம்

"பாரப்பா பூதமைந்து மண்நீர் தேயு

பரி வாயு வாகாட மைந்தினாலெ

சேரப்பாசடமாச்சி..."

- சதக நாடி

As per the above lines the Universe and the human body are made of five basic elements namely Space (Agayam), Air (Vaayu), Fire (Theyu), Water (Appu) and Earth (Piruthvi). Anything which is available in nature should be in the form of five basic elements.

"அண்டத்தி லுள்ளதே பிண்டம்

பிண்டத்திலுள்ளதே அண்டம்

அண்டமும் பிண்டமும் மொன்றே

அறிந்துதான் பார்க்கும் போதே"

- சட்டை முனி ஞானம்

As per the above lines man is said to be the microcosm and the world the macrocosm because what exists in the world exists in man or in other hand there is nothing in the macrocosm of nature that is not contained in man. So man must be looked upon as an integral part of Universal nature and not as anything separated.

## **I. THINAI (LAND)**

**Table. 1. Information about Thinaï (Land)**

<b>S.NO</b>	<b>THINAI</b>	<b>LAND</b>	<b>SEASON</b>	<b>PART OF THE DAY</b>
1.	Kurinchi (Hilly region)	Mountain and associated areas	Latter rainy season Early winter season	Midnight
2.	Mullai (Pastoral region)	Forest and associated areas	Early rainy season	Evening
3.	Marutham (Fertile river bed region)	Agricultural land and associated areas	All six seasons	Pre-Dawn, Dawn
4.	Neithal (Coastal region)	The coastal and associated areas	All six seasons	Evening
5.	Paalai (Desert region)	Desert and associated areas	Early summer seasons Latter rainy seasons Latter winter seasons	Mid-day

## **II. KAALAM**

Ancient Tamilians divided a year into six different seasons known as Perumpozhuthu and likewise the day into six segments which is known as Sirupozhuthu.

### **A. PERUMPOZHUTHU:**

**Table. 2. Information about Perumpozhuthu**

<b>S.No</b>	<b>PERUMPOZHUTHU</b>	<b>MONTH</b>
1.	Kaarkaalam (Monsoon season)	Aavani, Purattasi (August 16 – October 15)
2.	Koothikaalam (Post monsoon season)	Ippasi, Karthigai (October 16 – December 15)

3.	Munpanikaalam (Early winter season)	Margali, Thai (December 16 – February 15)
4.	Pinpanikaalam (Late winter season)	Maasi, Panguni (February 16 – April 15)
5.	Ilavenilkaalam (Early summer season)	Chithirai, Vaigasi (April 16 – June 15)
6.	Mudhuvenikaalam Late summer season	Aani, Aadi (June 16 – August 15)

#### **B. SIRUPOZHUTHU:**

**Table. 3. Information about Sirupozhuthu**

S.No	SIRUPOZHUTHU	PART OF THE DAY
1.	Malai	Evening
2.	Idaiyamam	Midnight
3.	Vaikarai	Dawn
4.	Kalai	Morning
5.	Nanpagal	Noon
6.	Erpadu	Afternoon

Each Perumpozhuthu and Sirupozhuthu is associated with the three humours naturally.

The human body is composed of ninety six Thathuvam or constituent principles in Nature including elements, bodily and mental organs, faculties etc.

“மூல மெழு பத்தீரா யிரமாம்நாடி  
முனைத்தெழுந்து வலைபோலே முடிந்ததோடே  
கோலமாய்ப் பதின்முவா யிரம்நரம்பு  
கோர்வையாய் சூழ்ந்திருக்கும் கூட்டிற்குள்ளே  
காலமாம் நாடிபத்து வாயு பத்து  
கதித்தெல்லா முக்கோர்வைப் பகையினாலே  
நாலநா லாயிரத்து நானூற்றோடு  
நவில் நாற்பத் தெண்ணோயாய் நாட்டலாமே”  
- மெய்ஞான நாடி

The siddhars' school fully recognises these ninety six tathwas and further add that the human body composed of 72,000 blood vessels, 13,000 nerves, 10 main arteries, 10 vital airs all together in the form of a network, and it is owing to the derangement of the three humours become liable to 4448 diseases.

### **III. THE BASIC PRINCIPLE (96 THATHUVAM):**

The basic principles that constitute the human beings are called Thathuvam. Thathuvam are 96 in number. These not only include the physical components but also the intellectual and the psychological components as well. The first thirty of them are the basic which include Bootham (Elements -5), Pulan (Sense organs -5), Pori (Sense -5), Kanmenthiriyam (Motor organs -5), Gnanenthiriyam (Functions of motor organs -5), Anthakaranam (Intellectual faculty -4) and Arivu (Wisdom -1). The other 66 are nothing but the expansion of the above thirty basic principles. These are Naadi (Channels/Nerves 10), Vaayu (Vital airs-10), Aasayam (Receptacle/Resting place -5), Kosam (Sheath -5), Aadharam (Psychic centre of the body -6), Malam (Impurities -3), Mandalam (Regions -3), Dosham (Humour -3), Eadanai (Bondages -3), Vinai (Deeds -2), Gunam (Qualities -3), Raagam (Passion -8) and Avathai (5). 96 Thathuvam are further divided into three types. They are Muthal thathuvam (First thathuvam – Intellectual components), Irandam thathuvam (Second thathuvam –Physical components) and Muntram thathuvam (Third thathuvam –Psychological components). Both first and second thathuvam contains 30 in number and third thathuvam contains 36 in number.

Thathuvam means primordial things or functions of the body or functions of three humours. It acts as a helping tool in which the soul experiencing the pleasure and sorrow. The atom consists of 96 Thathuvam which are invisible. If it gets disturbed it changes invisibility to visibility condition of the atom in the body leading to potential functioning. 96 Thathuvam combines with soul and get structure of whole body depending upon the kanmam of the soul then live the life to do natural duties and retain the old nature of 96 Thathuvam. The physical body of the human beings is governed by 96 Thathuvam. The body is considered to be a temple. When the body is destroyed, the Thathuvam will not function. The base for soul is called ceevathathu. It is divided into 3 thathu- Vatham, Pitham and Kabam which protects the body and soul.

## A.VARIOUS SCHOOLS OF THOUGHT:

There are at least six different schools of thought about these basic principles. The six different schools of thought on the classification of 96 Thathuvam are given in the following table

**Table. 4. Information about Various schools of thought**

<b>Siva Prakasa Kattalai</b>	<b>Thiru Valavai Kattalai</b>	<b>Vedantha Thathuva Kattalai</b>	<b>Tathuva Deepikai</b>	<b>Siddhanth a Kattalai</b>	<b>Yugi vaidya Cintamani</b>
Bootham -5	Bootham -5	Bootham -5		Bootham -5	Bootham -5
Pori -5	Pori -5	Pori -5	Pori -10		Pori -5
Thanmathira i-5	Thanmathira i-5	Pulan-5	Pulan-10	Thanmathir ai-5	Pulan-5
Thanmenthir iyam-5	Thanmenthir iyam-5	Kanmenthir iyam-5	Kanmenthir iyam-5	Kanmenthir iyam-5	Kanmenthir iyam-5
		Kanma vishayam-5			
				Gnanenthiri yam-5	Gnanenthiri yam-5
Antha karanam-4	Antha karanam-4	Karanam-4	Antha karanam-4	Antha karanam-4	Karanam-4
---	---	Arivu-1	---	---	Arivu-1
Naadi-10	Naadi-10	Naadi-10	Naadi-10	Piruthivin vazhi Naadi-10	Naadi-10
Vaayu-10	Vaayu-10	Vaayu-10	Vaayu-10	Vaayuv vazhi Naadi-10	Vaayu-10
---	---	Aasayam-5	---	---	Vishayam-5
---	---	Kosam-5	Kosam-5	---	Kosam-5
---	---	Aadharam- 6	Aadharam- 6	---	Aadharam- 6

---	---	Malam-3	Malam-3	---	Malam-3
---	---	Mandalam-3	Mandalam-3	---	Mandalam-3
---	---	Dhosam-3	Viyathi-3	---	Dhosam-3
---	Eadanai-3	Eadanai-3	---	Aakayathin vazhi Eadanai-3	Edanai-3
---	---	Vinai-2	---	---	Vinai-2
Gunnam-3	Gunnam-3	Gunnam-3	Gunnam-3	Gunnam-3	Gunnam-3
---	---	Ragam-8	Ragam-8		Ragam-8
---	---	Avasthai-5	Avasthai-5		Avasthai-5
Vidya Thathuvam-7	Vidya Thathuvam -7	---	---	Vidya Thathuvam 7	---
Siva Thathuvam -5	Siva Thathuvam -5	---	---	Sutha Thathuvam-5	---
Purakarana m-25	Purakarana m-25	---	---	Pancha Boothangali n kooru-25	---
Vasanathi-5					
Vaakku-4	Vaakku-4	---	---	Vaakku-4	---
				Vaakkathi n thozhil-4	
Akangaram-3	---	---	---	---	---
---	---	---	Vassal-9	---	---
---	---	---	Dhathu-7	---	---

## **B. 96 THATHUVAM AS EXPLAINED BY SAGE YUGI:**

Vaidya chintamani a word of Saint Yugi is a masterpiece in medicine, according to which the principles of Siddha system of medicine and treatment are explained in detail.

### **1. BOOTHAM (ELEMENTS):**

#### **a. Formation:**

All the objects in the world either with a definite shape or without shape are composed of five elements. The man is capable of identifying all the objects of this world only through his five sense organs involving five basic elements. The five subtle elements have been originated from the “MOOLA PRAKIRITHI” i.e. the creator. The Moola prakirithi has three gunam as

- Sathuva gunam – Intelligence, Self luminious
- Rasasa gunam – Energy, Activity
- Thamasa gunam – Mass, Heavy, Obstructing

The five basic elements are formed from thamasa gunam wherein five subtle substances are combined and activated. The subtle forms of primordial elements are known as

- Aagayam (Space)
- Vaayu (Air)
- Theyu (Fire)
- Appu (Water)
- Piruthivi (Earth)

These five elements are created one from the other. When they integrate, they lose their invisible state attaining visible concrete state. When they combine some may be excess or some other may be less. This proportionate integration results in the formation of gross state objects from subtle state objects.

**Table. 5. Information about characteristic features of Bootham (ELEMENTS)**

<b>Characteristic features</b>	<b>Aagayam (sky)</b>	<b>Vaayu (air)</b>	<b>Theyu (fire)</b>	<b>Appu (water)</b>	<b>Piruthivi (earth)</b>
Vadivam (Shape)	Vattam (Round)	Arukonom (Hexagonal)	Mukkonam (Triangle)	Irukonam (Angle)	Naarkonom (Square)
Niram (Colour)	Pugai (Grey)	Karuppu (Black)	Semmai (Red)	Vellai (Crystalline)	Ponmai (Golden)
Panbu (Character )	Idam koduthal (Accommodates everything)	Salithu thirattal (Flow and brings together)	Suttonru vithal (Heat)	Nekizhchi (Fluidness)	Kadinam (Roughness)
Subavam (State)	Nitral (Standing)	Niraitthal (Filling)	Vavvuthal (Spreading)	Paarthal (Seeing)	Kidathal (Lying)
Thozhil (Action)	Pokkuthal (Removing)	Vimmuthal (Expanding)	Ularthal (Drying)	Kattundal (Binding)	Poruthal (Holding)
Kuri (Symbol)	Amutha vindu	Aru pulli (Six points)	Swathikam	Koganagam (Lotus)	Vachiram (Diamond)
Thevathai (Deity)	Sadasivam	Maheswaran	Urudhiran	Vittunu	Brahman
Atcharam (Letter)	Aharam	Yaharam	Maharam	Vaharam	Lakaram
Sookkuma panchatcharam (Subtle activity)	Naadham	Vindhu	Maharam	Uharam	Aharam
Kalai	Santhia theetham	Santhi	Vithai (Knowledge)	Pirathittai (Vision)	Nivarthi (Removal)



**b. Puarakaruvikal (External manifestations of basic elements):**

By the combination of two different elements, body parts, secretions, actions and characters are formed as follows:

**Table. 6. Information about characteristic features of Puarakaruvikal (External manifestations of basic elements)**

<b>Bootham (Elements)</b>	<b>Aagayam (Sky)</b>	<b>Vaayu (Air)</b>	<b>Theyu (Fire)</b>	<b>Appu (Water)</b>	<b>Piruthivi (Earth)</b>
Aagayam (Sky)	Mogam (Lust)	Ilachai (Shyness)	Payam (Fear)	Duvesham (Hatred)	Ragam (Desire)
Vaayu (Air)	Thandal (Jumping)	Odal (Running)	Utkaruthal (Sitting)	Nadathal (Walking)	Paduthal (Lying)
Theyu (Fire)	Serkai (Union)	Aalasiyam (Lazy)	Thookam (Sleep)	Thakam (Thirst)	Pasi (Hunger)
Appu (Water)	Sukkilam (Semen)	Ratham (Blood)	Viyarvai (Sweat)	Siruneer (Urine)	Umizhneer (Saliva)
Piruthivi (Earth)	Mayir (Hair)	Narambu (Nerve)	Thol (Skin)	Maamisam (Muscle)	Elumbu (Bone)

**C. Functions and character of the basic elements:**

**Table. 7. Information about Functions and character of the Bootham (Basic elements)**

<b>Bootham (Elements)</b>	<b>Functions</b>	<b>Characters</b>
Aagayam (Sky)	<ul style="list-style-type: none"> <li>- Mayappikkum (Lust infatuates )</li> <li>- Munaippikkum (Ego asserts)</li> <li>- Sinathai undakkum (Excitement promotes anger)</li> <li>- Pisinipikka seiyum (Stinginess, refuses to part)</li> </ul>	<ul style="list-style-type: none"> <li>- Nutpam (Subtility)</li> <li>-Thelivu (Transparency)</li> <li>-Thanivu thanmaiya undakkuthal (Create calmness)</li> <li>-Thulaiyudaiya bagankalai adaithal (Plugging the passages)</li> </ul>

	<ul style="list-style-type: none"> <li>- Ikazhvikum (Inner hatred, makes one to speak ill of others)</li> </ul>	
Vaayu (Air)	<ul style="list-style-type: none"> <li>- Viraivikkum (Spreads quickly)</li> <li>- Azhuthuvikkum (Static exerts higher)</li> <li>- Pottuvikkum (To lay is to drop things)</li> <li>- Ezhupuvikkum (Walk awakens)</li> <li>- Nirppikkum (Standing helps installation)</li> </ul>	<ul style="list-style-type: none"> <li>- Thalarchi (Flexible)</li> <li>- Varatchi (Dryness)</li> <li>- Elimai (Lightness)</li> <li>- Ooru (Sensation)</li> <li>- Manakavalai (Anxiety)</li> <li>- Udalvatam (Physical weakness)</li> </ul>
Theyu (Fire)	<ul style="list-style-type: none"> <li>- Pasi (Hunger brings in appetite)</li> <li>- Thookkam (Sleep sedates)</li> <li>- Thabikkum (Thirst makes one to drink)</li> <li>- Accham (Fear frightens)</li> <li>- Sombu murikkum (Laziness leads to yawning)</li> </ul>	<ul style="list-style-type: none"> <li>- Veppam (Wareth)</li> <li>- Kurmai (Sharpness)</li> <li>- Varatchi (Dryness)</li> <li>- Thelivu (Transparency)</li> <li>- Nunthukal (Minuteness)</li> <li>- Erithal (Serene)</li> <li>- Olirthal (Shining)</li> <li>- Niramundathal (Colouring)</li> </ul>
Appu (Water)	<ul style="list-style-type: none"> <li>- Neer vizhum (Chyle flows)</li> <li>- Kuruthi parakkum (Blood nourishes)</li> <li>- Venneer varathikkum (Semen flows)</li> <li>- Moolai methenrirukkum (Bone marrow softens)</li> <li>- Kozhuppu nirakkum (Fat fills in)</li> </ul>	<ul style="list-style-type: none"> <li>- Kulirchi (Chillness)</li> <li>- Neippu (Greasy)</li> <li>- Menmai (Soft)</li> <li>- Thointhu pothal (Slimy)</li> <li>- Thalaranthu perukal (Flexible and Spreading)</li> <li>- Manakalippai undakkal (Give delight)</li> <li>- Sithari kidappavatrai ontru kattuthal (Unite the scattered)</li> </ul>

Piruthivi (Earth)	<ul style="list-style-type: none"> <li>- Mayir valarum (Hair grows)</li> <li>- Elumbu urakkum (Bone strengthens)</li> <li>- Azhagu (Skin covers the internal organs and give complexion)</li> <li>- Narambu kathithodum (Nerve conducts impulse)</li> <li>- Thasai mutrum (Muscle acts for locomotion)</li> </ul>	<ul style="list-style-type: none"> <li>- Sumai (Weight)</li> <li>- Paruman (Bulky)</li> <li>- Peruki odatha thanmai (Static)</li> <li>- Thiratchi (Density)</li> <li>- Valarchi (Growth)</li> <li>- Meanmai (Excellence)</li> </ul>
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## 2. PORI (SENSE ORGAN):

**Table. 8. Information about functions of Pori (Sense organ)**

S.No	PORI (SENSE ORGAN)	FUNCTION
1.	Sevi (Ear)	With predominant Space element, to hear sound
2.	Mei (Skin)	With predominant Air element, to feel the sense of Touch
3.	Kan (Eye)	With predominant Fire element, to see the objects
4.	Vaai (Mouth)	With predominant Water element, to realize the taste
5.	Mookku (Nose)	With predominant Earth element, to smell the odour

### 3. PULAN (SENSE):

**Table. 9. Information about functions of Pulan (Sense)**

S.No	PULAN (SENSE)	FUNCTION
1.	Saptham (Sound)	Which is heard
2.	Sparisam (Feeling of touch)	Which is felt
3.	Roobam (Light)	Which is seen
4.	Rasam (Taste)	Which is experienced
5.	Kantham (Smell)	Which is perceived

### 4. KANMENTHIRIYAM (MOTOR ORGAN)

**Table. 10. Information about functions of Kanmenthiriyam (Motor organ)**

S.No	KANMENTHIRIYAM (MOTOR ORGAN)	FUNCTION
1.	Vaakku (Mouth)	The speech occurs in relation with the space element
2.	Paatham (Leg)	The walking takes place in relation with air element
3.	Paani (Hand)	Giving and taking are carried out with the influence of fire element
4.	Paayuru (Anal region)	The excrete is removed in association with water element
5.	Upattham (Genitals)	In relation with earth element, it causes ejaculation and ensure pleasure on account of reproduction

## 5. GNANENTHIRIYAM (FUNCTIONS OF MOTOR ORGAN):

**Table. 11. Information about functions of Gnanenthiriyam  
(Functions of motor organ)**

S.No	GNANENTHIRIYAM	FUNCTION
1.	Vasanam (Speech)	The functions of the mouth is speaking
2.	Kamanam (Walking)	The functions of the leg is walking
3.	Dhanam (To give and take)	The functions of the hand is giving and taking
4.	Visarchanam (Excretory process)	The functions of the excretory organs are removing the excreta
5.	Aanantham (Pleasure)	The functions of the genitalia is enjoyment

## 6. ANTHAKARANAM (INTELLECTUAL FACULTY):

**Table. 12. Information about functions of Anthakaranam (Intellectual faculty)**

S.No	ANTHAKARANAM (INTELLECTUAL FACULTY)	FUNCTION
1.	Manam (Mind)	Which thinks, locates in the throat (kandam)
2.	Putthi (Knowledge)	Which enquires, locates in the eyes (nethram)
3.	Siddham (Determination)	To complete what has been thought and enquires, locates in the umbilicus (nabi)
4.	Akangaram (Pride)	Achievement thinking of one thing. Enquires it and then sticks to it. Locates in the heart.

## 7. ARIVU (WISDOM):

It is soul's consciousness, enjoyment and Happiness through self realizing.

## 8. NAADI (THE CHENNELS / NERVES):

The ten nerves or arteries of the human system forming the principal channels of vital spirit. They are:

**Table. 13. Information about functions of Naadi (the channels / nerves)**

S.No	NAADI (THE CHENNELS / NERVES):	LOCATION
1.	Edakalai	Arises from the right great toe of the leg, crossing scissor like coiling round the Suzhimunai and ends at the left nostril.
2.	Pingalai	Arises from the left great toe of the leg, rossingscissor like coiling round the Suzhimunai and ends at the right nostril
3.	Suzhimunai	Acts on the both nostrils from the Moolatharam (Perineum) as a pedestal for all the Naadis and flows to the head.
4.	Siguvai	Located at the root of the tongue, it helps in swallowing food and water
5.	Purudan	Located in the right eye
6.	Kaanthari	Located in the left eye
7.	Atthi	Located in the right ear
8.	Alambudai	Located in the left ear
9.	Sangini	Located in the genital region
10.	Gugu	Located in the anorectal region

## 9. VAAYU (VITAL AIRS):

**Table. 14. Information about Characteristic features of Vaayu (Vital airs)**

S. No	Vaayu (Vital airs)	Colour	God	Situated	Function
1.	Piranam (Air of life)	Neelam (Blue)	Chandran (Moon)	Starts from Moolatharam and comes through nostrils	-It does inspiration and expiration. -It helps in the digestion of ingested food.
2.	Abanan (Air of downward motion)	Pachai (Green)	Varadarajan	Starts from Swathitanam and descends downwards	-It responsible for excretion of urine and faeces. -It contracts anus. -It helps to take the essence of digested food to the different part of the body which requires food
3.	Viyanan (Air which spreads throughout)	Paal (Milky white)	Eaman	Starts from shoulder and go through 72,000 nerves	-It activates voluntary and involuntary movements of the body. -It appreciates the sense of touch. -It helps to take the essence of the food to the strategic point and guards of the body
4.	Udhanan (Air of upward motion)	Minnal (Lighting)	Akkini Devan (God of fire)	Starts from umbilical region	-It takes the essence of the food and stations it at appropriate places. -It helps in digestion and assimilation of food.
5.	Samanan (Balancing air)	Putpa ragam (Topaz)	Suriyan (Sun)	Starts from the umbilical cord and spread out	This is responsible for other four Vatham. -It equalizes the six tastes,

				up to the lower limb	water, food, etc and helps in assimilation
6.	Naagan (Air of intellectual function)	Ponniram (Gold)	Anandhan	-----	-It is responsible for higher intellectual functions, hearing, thinking, etc -It causes opening of the eyes, blinking of the eyelids,
7.	Koorman (Air of yawning)	Veluppu (Pale)	Vishnu	Starts from the mind	-It causes winking of the eyelids, yawning and Closure of mouth. -It gives strength. -It causes opening and closure of the eyes, helps to visualize things and causes lacrimal secretion.
8.	Kirugaran (Air of salivation)	Karuppu (Black)	Sivan	Lies in tongue	-It causes nasal and salivary secretions. -It induces hungers. -It makes to concentrate on one thing. -It attributed sneezing and coughs.
9.	Devathaththan (Air of laziness)	Padigam (Crystal)	Devendran	Lies in anus or urinary orifice	- Like an arch and cause laziness and to squeeze the body in laziness. - Immediately after awakening from sleep, it gives languor. - It helps in rotating the eye balls and is responsible for tolerance, temperament for fighting, argument and fury.



10	Dhanancheyan (Air that acts on death)	Neelam (Blue)	Dhanvant hri	Functions from the nose	<ul style="list-style-type: none"> <li>- It makes whole body swell.</li> <li>- After death on the third day it roars like an ocean and comes out of the skull by splitting.</li> </ul>
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#### 10. AASAYAM (RECEPTACLES/RESTING PLACE):

**Table. 15. Information about Characteristic features of Aasayam  
(Receptacles/Resting place)**

S. No	Aasayam (Receptacles/Resting place):	Location	Function
1.	Amarvaasayam (Digestive organ)	Stomach	Digestion
2.	Pakirvaasayam (Absorbing organ)	Intestine	Absorption
3.	Salavaasayam (Excretory organ)	Kidney	Urinary filtration and excretion
4.	Malavaasayam (Excretory pathway to faecal matter)	Rectum and Anus	Excretory pathway to faecal matter.
5.	Sukkilaasayam (Reproductive organ)	Reproductive organ	Semen secretion and storage.

## 11. KOSAM (SHEATH):

**Table. 16. Characteristic features of Kosam (Sheath)**

S.No	Kosam (Sheath)	Situation	Formation
1.	Annamaya Kosam (Physical sheath)	Gastro intestinal system	Constituted by 7 physical constituents.
2.	Pranamaya Kosam (Respiratory sheath)	Respiratory system	Constituted by Piranan and the Motor organ.
3.	Manomaya Kosam (Mental sheath)	Cardiovascular system	Constituted by the mind and the sense organ
4.	Vinganamaya Kosam (Intellectual sheath)	Nervous system	Constituted by Intellect and the sense organ
5.	Aananthamaya Kosam (Blissful sheath)	Reproductive system	Constituted by Piranan and the subtle body

## 12. AATHARAM (PSYCHIC CENTRE OF THE HUMAN BODY):

The body forming as it were, at support to life; the six psychic centres in the human body, which are considered the six pillars of life.

**Table. 17. Information about Characteristic features of Aatharam  
(Psychic centre of the human body)**

S. No	Aatharam (Psychic centre of the human body)	Situation	Shape	Colour	God	Word
1.	Moolatharam	Between genital and anal orifice	Round with triangle. Lotus with 4 petals.	Ruby	Ganabath i, Kundalin i shakthi	Om
2.	Swathittanam	2 fingers above the Moolatharam	Square with 6 petal lotus.	Golden	Brahma, Saraswat hi	Na

3.	Manipuragam	8 fingers above the Swathittanam	Crescent wit 10 petal lotus	Emerald	Vishnu , Mahalaks hmi	Ma
4.	Anathagam	10 fingers above the Manipuragam	Triangle with 12 petal lotus	Red	Ruthra , Parvathi	Si
5.	Visuthi	10 fingers above the Anathagam	Hexagon with 16 petal iotus	Clouds	Maheswa ra, Maheswa ri,	Va
6.	Aakinai	12 fingers above the Visuthi	Circle with 3 petal lotus	Crystal	Sadhasiv am, Manonm ani	Ya

### 13. MANDALAM (REGIONS):

They are three in number as follows:

**Table. 18. Information about Characteristic features of Mandalam (Regions)**

S.No	Mandalam (Regions)	Location	Shape	Appearance
1.	Akni Mandalam (Fire Region)	Where the Piruthivi and the Appu meet. Two fingers breadth above the Moolatharam.	Triangle in the centre of the lotus with 4 petals	-----
2.	Surya Mandalam (Sun Region)	Heart centre of six pointed. Four fingers breadth above the umbilicus.	Hexagon with 8 petal lotus	Banana flower facing downwards

3.	Chandra Mandalam (Moon Region)	Centre of the eye brows	-----	Ambrosia stands facing upward. The Agni stands facing downwards. Parashakthi stands in the centre.
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#### 14. MALAM (BONDAGE OR IMPURITIES):

**Table. 19. Information about functions of Malam (Bondage or impurities)**

S.No	MALAM (BONDAGE OR IMPURITIES):	FUNCTION
1.	<b>Aanavam (Pride of arrogance or Ego):</b>	This acts marks clarity of thought of knowing power of the soul is called Arivu (Wisdom). The soul is not able to show its wisdom, since it is hiding behind Aanavam. It is in ignorance that his family and his belongings are perpetual.
2.	<b>Kanmam (Desire for everything):</b>	Kanmam is the activities or the deeds of the soul after creation with the help of the physical body. Depending upon the nature of the deed of the soul is born again with a physical body.
3.	<b>Mayai (Falsehood or Illusion):</b>	The soul is in the state of falsehood or illusion. A false interpretation of an external sensory stimulus. Mayai is perceptible to the soul to function within the body. Mayai used for formation of the physical body called creation.

## 15. DOSHAM (HUMOUR):

It indicates the faults of any one of the three humours in the system. The three humours are called Dosham because they are often vitiated and rarely remain in perfect condition and proportion. No disease can ever occur which is not brought about by the vitiation directly or indirectly of these humours. Sometimes one sometimes any two and sometimes all the three are vitiated.

**Table. 20. Information about Characteristic features of Dosham (Humour)**

S.No	Dosham (Humour)	Location	Qualities	Properties	Types
1.	Vatham	Below the umbilicus	<ul style="list-style-type: none"><li>- Spreading</li><li>- Dryness</li><li>- Changing its places quickly</li><li>- Subtle</li></ul>	<ul style="list-style-type: none"><li>- To stimulate</li><li>- To respiration</li><li>- To activate the body, mind and intellect</li><li>- To expel the 14 different kinds of natural reflexes</li><li>- To activate 7 physical constituents in junctional coordination</li><li>- To strengthen the 5 sense organs</li></ul>	<ul style="list-style-type: none"><li>- Piranan</li><li>- Abanan</li><li>- Viyanan</li><li>- Uthanan</li><li>- Samanan</li><li>- Naagan</li><li>- Kirugaran</li><li>- Koorman</li><li>- Devathathan</li><li>- Danancheyan</li></ul>
2.	Pitham	Abdomen and Thorax	<ul style="list-style-type: none"><li>- Warmness</li><li>- Subtlety</li><li>- Fluidity</li><li>- Swiftiness</li><li>- Changing its place of origin quickly</li></ul>	<ul style="list-style-type: none"><li>-To maintain body temperature</li><li>- Produce reddish or yellowish colour of the body</li><li>- Produce heat energy on digestion of food</li></ul>	<ul style="list-style-type: none"><li>- Pasagam</li><li>- Ranchagam</li><li>- Saadagam</li><li>- Prasagam</li><li>- Alosagam</li></ul>

				<ul style="list-style-type: none"> <li>-Produce sweating</li> <li>-Induce giddiness</li> <li>- Produce blood and excess blood let out</li> <li>- Produces anger, haughtiness, burning sensation, inaction and determination</li> <li>- Gives yellowish colouration to skin, eyes, faeces and urine</li> <li>- Give bitter and sour taste</li> </ul>	
<b>3.</b>	<b>Kabam</b>	Head and neck region	<ul style="list-style-type: none"> <li>- Coolness</li> <li>- Solidity</li> <li>- Tenacity</li> <li>- Viscous</li> <li>- Immobility</li> <li>- Softness</li> <li>-Tender and Pulpy</li> </ul>	<ul style="list-style-type: none"> <li>- Greasiness</li> <li>- Knowledge</li> <li>- Heaviness of bone</li> <li>- Strength</li> <li>- Cool</li> <li>- Pallor</li> <li>- Roughness</li> <li>- Growth</li> <li>- Indigestion</li> <li>-Restriction of joint movements</li> <li>- Deep sleep</li> <li>- Give sweet taste in tongue</li> </ul>	<ul style="list-style-type: none"> <li>- Aalambagam</li> <li>- Kilethagam</li> <li>- Bothagam</li> <li>- Tharpagam</li> <li>- Santhigam</li> </ul>

## 16. EDANAI (PHYSICAL BINDING):

**Table. 21. Information about functions of Edanai (Physical binding)**

S.No	EDANAI (PHYSICAL BINDING)	FUNCTION
1.	Artha vedanai	Affinity to acquire wealth
2.	Puthira vedanai	Affinity towards family
3.	Ulaga vedanai	Affinity towards worldly pleasures

## 17. VINAI (DEEDS):

**Table. 22. Information about functions of Vinai (Deeds)**

S.No	VINAI (DEEDS):	ACTION
1.	Nalvinai (Good deeds)	Promotes meritorious acts
2.	Theevinai (Bad deeds)	Being the sin for committing sinful acts

## 18. GUNAM (QUALITIES OF MAN):

**Table. 23. Information about functions of Gunam (Qualities of man)**

S.No	GUNAM (QUALITIES OF MAN):	CHARECTERS
1.	<b>Sathuvam</b>	Arul (Grace) Impori adakkal (Control of the five senses) Gnanam (Wisdom) Thavam (Penance) Porai (Generosity) Menmai (Excellence) Monam (Silence) Vaaimai (Truthfulness)
2.	<b>Rasasam:</b>	Ookkam (Enthusiasm) Gnanam (Wisdom) Veeram (Bravery) Aram (Virtue)

		Thavam (Penance) Egai (Offering gifts) Kalvi (Learning) Kelvi (Listening)
3.	<b>Thamasam:</b>	Ozhukkaminmai (Immorality) Kaamam (Lust) Sinam (Anger) Kolai (Killing) Sombu (Laziness) Neethivazhuval (Violation of justice) Nedunthuyil (Prolonged sleep) Perundy (Gluttonousness) Poi (Falsehood) Marathi (Forgetfulness) Vanjagam (Fraudulence)

### 19. RAGAM (PASSION):

1. Kaamam (Sexual desire)
2. Kurotham (Hatred, Malicious hatred)
3. Ulobam (Stinginess, Misery)
4. Mogam (Lust or Infatuation)
5. Matham (Arrogance, Rut)
6. Maarchariyam (Envy)
7. Idumbai (suffering affliction)
8. Akangaram (Egotism or pride)



## 20. AVATHAI (STATES OF THE SOUL):

**Table. 24. Information about location of Avathai (States of the soul)**

S.No	AVATHAI (STATES OF THE SOUL):	LOCATION
1.	Saakiram (Awakened state)	This state exists between the eye brows. The four strengths, the five senses, the five actions (Asayam) and the four Anthakarnam are active in this state.
2.	Swappanam (Dream state)	This state lies at Adam's apple (Throat). The five senses and the five actions are active in this state.
3.	Suzuthi (sleeping state)	This state is in which the Anthakaranam are associated with the soul but these things could not be expressed to others and its seat being thorax.
4.	Dhuriyam (Deep sleep)	The ceevathma, along with wisdom lies at the naval region. Here respiration takes place.
5.	Dhuriya theetham (Immersed state of Ceevathma):	All the fourteen, the senses, actions and Anthakaranam are detached from the Ceevathma. The Ceevathma deeply immersed in the Moolatharam without the awareness of impurity (Malam), sloth (Mantham), delusion (Maya) and sense of truth.

#### IV. UYIR THATHUKKAL:

"உருபொருள் தாங்கு முடலு முயிரும்  
 உடற்கா தாரமொன் பஞ்ச பூதப்  
 பஞ்சீகரணப் பான்மையா மெனவும்  
 உயிர்க்காதார முயிர்த்தா தெனவும்  
 முப்பிரிவாகி முக்குண மணுகி  
 உடலையு முயிரையு மோம்பிக் காத்து  
 வருமென முதுமறை வகுக்குந் துணிபே"

The physical body is made up of Pancha Bootha Pancheeakaranam. Tha base for the soul is Uyirathathu which causes the soul to live and function in a body. Uyirathathu is called in several terms as Ceevathathu, Thathu, Naadi, Ceevan, Aanma, Ceevasakthi, Ceevathma, Aathmanaadi, Aathmasakthi and Gurunaadi. This Uyirathathu divides into three and gets three Gunam and gaurds the soul as well as the body in an inseparable manner.

**Table. 25. Information about characteristic features of Dhosam  
 (Udal thathukkal)**

S.NO	UDAL THATHU	LOCATION	QUALITIES	PROPERTIES	TYPES
1.	Vatha	Below the umbilicus	<ul style="list-style-type: none"> <li>- Spreading</li> <li>- Dryness</li> <li>- Changing its places quickly</li> <li>- Subtle</li> </ul>	<ul style="list-style-type: none"> <li>- To stimulate</li> <li>- To respiration</li> <li>- To activate the body, mind and intellect</li> <li>- To expel the 14 different kinds of natural reflexes</li> <li>- To activate 7 physical constituents in junctional coordination</li> <li>- To strengthen the 5 sense organs</li> </ul>	Pranan Abanan Viyanan Uthanan Samanan Naagan Kirugaran Koorman Devathathan Danancheyan

<b>2.</b>	<b>Pitha</b>	Abdomen and Thorax	<ul style="list-style-type: none"> <li>- Warmness</li> <li>- Subtlety</li> <li>- Fluidity</li> <li>- Swiftness</li> <li>- Changing its place of origin quickly</li> </ul>	<ul style="list-style-type: none"> <li>-To maintain body temperature</li> <li>- Produce reddish or yellowish colour of the body</li> <li>- Produce heat energy on digestion of food</li> <li>-Produce sweating</li> <li>-Induce giddiness</li> <li>- Produce blood and excess blood let out</li> <li>- Produces anger, haughtiness, burning sensation, inaction and determination</li> <li>- Gives yellowish colouration to skin, eyes, faeces and urine</li> <li>- Give bitter and sour taste</li> </ul>	<ul style="list-style-type: none"> <li>- Pasagam</li> <li>- Ranchagam</li> <li>- Saadagam</li> <li>- Prasagam</li> <li>- Alosagam</li> </ul>
<b>3.</b>	<b>Kabam</b>	Head and neck region	<ul style="list-style-type: none"> <li>- Coolness</li> <li>- Solidity</li> <li>- Tenacity</li> <li>- Viscous</li> <li>- Immobility</li> <li>- Softness</li> <li>-Tender and Pulpy</li> </ul>	<ul style="list-style-type: none"> <li>- Greasiness</li> <li>- Heaviness of bone</li> <li>- Strength</li> <li>- Cool</li> <li>- Pallor</li> <li>- Roughness</li> <li>- Growth</li> <li>- Indigestion</li> <li>-Restriction of joint movements</li> <li>- Deep sleep</li> <li>- Give sweet taste in tongue</li> </ul>	<ul style="list-style-type: none"> <li>-Aalambagam</li> <li>- Kilethagam</li> <li>- Bothagam</li> <li>- Tharpagam</li> <li>- Santhigam</li> </ul>

### A. VAATHAM:

The nature of the Vatham is soft and fine and temperature (coolness and hotness) could be felt by touch. There are ten in types as follows,

**Table. 26. Information about characteristic features and functions of Vatham**

S.NO	VAAYU	COLOUR	GOD	SITUATED	FUNCTION
1.	Piranam (Air of life)	Blue	Moon	Starts from Moolatharam and comes through nostrils	-It does inspiration and expiration. -It helps in the digestion of ingested food.
2.	Abanan(Air of downward motion)	Green	Varadarajan	Starts from Swathitanam and descends downwards	-It responsible for excretion of urine and faeces. -It contracts anus. -It helps to take the essence of digested food to the different part of the body which requires food
3.	Viyanan (Air which spreads throughout)	Milky white	Eaman	Starts from shoulder and go through 72,000 nerves	-It activates voluntary and involuntary movements of the body. -It appreciates the sense of touch. -It helps to take the essence of the food to the strategic point and guards of the body

4.	Udhanan (Air of upward motion)	Lighting	God of fire	Starts from umbilical region	-It takes the essence of the food and stations it at appropriate places. -It helps in digestion and assimilation of food.
5.	Samanan (Balancing air)	Topaz	Sun	Starts from the umbilical cord and spread out up to the lower limb	This is responsible for other four Vatham. -It equalizes the six tastes, water, food, etc and helps in assimilation
6.	Naagan (Air of intellectual function)	Gold	Anandhan	-----	-It is responsible for higher intellectual functions, hearing, thinking, etc -It causes opening of the eyes, blinking of the eyelids, -
7.	Koorman (Air of yawning)	Pale	Vishnu	Starts from the mind	-It causes winking of the eyelids, awning and closure of mouth. -It gives strength. -It causes opening and closure of the eyes, helps to visualize things and causes lacrimal secretion.

8.	Kirugaran (Air of salivation)	Black	Siva	Lies in tongue	-It causes nasal and salivary secretions. -It induces hungers. -It makes to concentrate on one thing. -It attributed sneezing and cough.
9.	Devathatthan (Air of laziness)	Crystal	Devendran	Lies in anus or urinary orifice	-Laziness is attributed. -Ocular movements and human passions are attributed.
10.	Dhanancheyan (Air that acts on death)	Bue	Dhanvanthri	Functions from the nose	It is responsible for the bloating of the body after death and also for the foul smell.

#### **B. PITHAM:**

The natural shape of Pitham is Atomic. It is sharp and hot. The heat of the Pitham is responsible for many actions and reactions. Pitham is responsible for Digestion, Vision, and Maintenance of body temperature, Hunger, Thirst, Taste etc. Its other functions include Thought, Knowledge, Strength and Softness. The Pitham is of five types depending upon the locations and the functions as follows,

**Table. 27. Information about location and functions of Pitham**

S.NO	TYPES	LOCATIONS	FUNCTIONS
1.	Aakkanal (The fire of digestion)	Lies between the Stomach and the Intestine	Digestion and dries up moist ingested substances
2.	Vannaveri (Blood promoting fire)	Lies in the Stomach	Gives red colour to the chime, produces and improves blood.
3.	Aatralanki (The fire of energy)	Lies in the Heart	-----
4.	Ulloli thee (The fire of brightness)	Lies in the Skin	Gives colour, complexion and brightness.
5.	Nokkazhal (The fire of vision)	Lies in the Eyes	Causes the faculty of vision and helps to visualise things.

**2`C. KABAM:**

The nature of Kabam is Greasy, Cool, Dull, Viscous, Soft and Compact. The Skin, Eyes, Faeces and Urine are white in colour due to the influence of Kabam. The Kabam is of five types depending upon the locations and the functions as follows,

**Table. 28. Information about location and functions of Kabam**

S.NO	TYPES	LOCATIONS	FUNCTIONS
1.	Ali Aiyam(Phlegm of Respiration)	Lies in the Lungs	It controls the other four Kabam and maintenance equilibrium.
2.	Neerpi Aiyam (Phlegm of Digestion)	Lies in the Stomach	It mixes the consumed food and water and promotes the digestive process.
3.	Suvaikaan Aiyam (Phlegm of Taste)	Lies in the Tongue	Helps to realise the taste of the consuming food.
4.	Niraivu Aiyam (Phlegm of Vision)	Lies in the Head	Gives refrigerant effect to cool the eyes and other sensory organ.
5.	Onri Aiyam (Phlegm of Joints)	Lies in the Joints	Makes them move freely and easily

## V. UDAL THATHUKKAL:

Udal thathukkal are the basic physical components of the body. They are also constituted by the Five Elements. Udal thathukkal are seven in number as follows,

**Table. 29. Information about functions of Udal thathukkal**

S.NO	UDAL THATHUKKAL	FUNCTIONS
1.	Saaram (Chyle)	It gives mental and physical perseverance.
2.	Chenneer (Blood)	It gives colour to the body, nourishes the body and is responsible for the ability and intellect of an individual.
3.	Oon (Muscle)	It gives shape to the body according to the physical activity and covers the bone.
4.	Kozhuppu (Adipose tissue)	It lubricates the joints and other parts of the body to function smoothly.
5.	Enbu (Bone)	It supports the frame and responsible for the postures and movements of the body.
6.	Moolai (Bone Marrow)	It occupies the Medulla of the bone and gives strength and softness to them.
7.	Sukkilam (Sperm)/ Suronitham (Ovum)	It is responsible for reproduction

These are the seven basic constituents that form the physical body. All the three humours Vatham, Pitham and Kabam present in these constituents. The consumed food is converted to Saaram in the first day and then it is converted to Chenneer in the second day, Oon, Kozhuppu, Enbu, Moolai and Sukkilam/Suronitham respectively in the following days.



## **VI. UDAL THEE (Four kinds of body fire):**

There are four kinds of body fire. They are Samakkini, Vishamakkini, Deekshakkini and Manthakkini.

**Table. 30. Information about functions of Udal thee**

<b>S.NO</b>	<b>UDAL THEE (FOUR KINDS OF BODY FIRE)</b>	<b>FUNCTIONS</b>
1.	Samakkini (Balanced digestive fire)	The digestive fire is called Samaakkini. This is constituted by Samanan Vaayu, Anal Pitham and Kilethaga Kabam. If they are in normal proportion, then it is called Samaakkini. It is responsible for the normal digestion of the food.
2.	Vishamakkini (Toxic digestive fire)	Due to deranged and displaced Samanan vaayu, it takes longer time for digestion of normal food. It is responsible for indigestion due to delay in digestive process.
3.	Deekshakkini (Accentuated digestive fire)	Due to increased Anala Pitham food digested faster. It also destroys chyle.
4.	Manthakkini (Sluggish digestive fire)	Due to increased Silethaga Kabam food is poorly digested and leads to abdominal pain, distention, etc.

## **VII. NATURAL REFLEXES/URGES:**

The natural reflexes excretory, protective and preventive mechanisms are responsible for the urges and instincts. They are 14 in number as follows,

1. Vaatham (Flatus)
2. Thummal (Sneezing)
3. Siruneer (Urine)
4. Malam (Faeces)
5. Kottavi (Yawning)
6. Pasi (Hunger)
7. Neervetkai (Thirst)
8. Kaasam (Cough)
9. Elaippu (Exhaustion)
10. Nithirai (Sleep)
11. Vaanthi (Vomiting)
12. Kanneer (Tears)
13. Sukkilam (Semen)
14. Suvasam (Respiration)

The natural reflexes are said to be an indication of normal body functioning of our body. A proper maintenance should be carried out and they should not be restrained with force.

#### 4.READING BETWEEN YUGI'S LINES OF VATHAKANNAGAM

“தம்பமாய் நடக்கும் போதுந் தரித்து  
தாவியே யுயரமா யெட்டும் போதும்  
வம்பமாய் பள்ளத்தி லிறங்கும் போதும்  
மயக்கமாய்த் தள்ளாடி இடைந்து வீழ்ந்தும்  
வெம்புமாம் பாம்புவிஷ மேதும் போல  
மிக்கான சரீரமெல்லாந் தளர்ச்சி யாகும்  
சிம்பமாம் புள்ளுப்போல் பரப்பு காணும்  
செறிவாத கண்ணகச் சிறப்பு மாமே  
- யுகி வைத்திய சிந்தாமணி

According to Yugi Vaithiya Sinthamani, the symptoms of Vathakannagam are giddiness, unsteadiness and laterally slipping while walking, and climbing up and down the stairs, general weakness in whole body and wide based gait.

**Table:45. Information about Breakup Symptomatology**

S.NO	LINE OF POEM	BREAKUP SYMPTOMATOLOGY
1	“தம்பமாய் நடக்கும் போதுந் தரித்து தாவியே யுயரமா யெட்டும் போதும் வம்பமாய் பள்ளத்தி லிறங்கும் போதும் மயக்கமாய்த் தள்ளாடி இடைந்து வீழ்ந்தும்”	Tripping, tottering and staggering in dizziness while climbing up or getting down or trying to step high off the ground
2	“வெம்புமாம் பாம்புவிஷ மேதும் போல மிக்கான சரீரமெல்லாந் தளர்ச்சி யாகும்”	General weakness in the whole body due to relaxing of the muscles
3	“சிம்பமாம் புள்ளுப்போல் பரப்பு காணும்”	Spreading wide the limbs as it were a wings of the bird

## LIGHT FROM LEXICONS

**Table: 46. Information about Words From Yugi's line**

S.NO	WORDS FROM POEM	TAMIL MEANING	ENGLISH MEANING	LEXICON
1	தம்பம்	தூண்	Pillar	N.Kathiraiverpillai Tamil Dictionary, Pg No: 753 Tranquebar Tamil – English Dictionary Pg No: 416
2	நடக்கும் போது (நடத்தல்)	செல்லுதல்	Walking	N.Kathiraiverpillai Tamil Dictionary, Pg No: 869 Tranquebar Tamil – English Dictionary Pg No: 438
3	தரித்து	நிலைபெற்று நிற்றல்	To stand firm	T.V.Sambasivam Pillai, Pg No:827, Vol-IV (part 1)
4	தாவியே (தாவுதல்)	தாண்டல்	Jumping	N.Kathiraiverpillai Tamil Dictionary, Pg No: 777 Tranquebar Tamil – English Dictionary Pg No: 391
5	உயரமாய் (உயரம்)	மேல்	Height	N.Kathiraiverpillai Tamil Dictionary, Pg No: 286 Tranquebar Tamil – English Dictionary Pg No: 92
6	எட்டும் போது (எட்டுதல்)	தாவுதல்	Jumping	N.Kathiraiverpillai Tamil Dictionary, Pg No: 319 Tranquebar Tamil – English Dictionary Pg No: 391

7	பள்ளம்	ஆழம், தாழ்ந்த நிலம்	Lowness, Low land	N.Kathiraiverpillai Tamil Dictionary, Pg No: 987 Tranquebar Tamil – English Dictionary Pg No: 502
8	இறங்கும் போது (இறங்குதல்)	கீழ்நோக்குதல்	Come down, drop down	N.Kathiraiverpillai Tamil Dictionary, Pg No: 253 Tranquebar Tamil – English Dictionary Pg No: 75
9	மயக்கமாய்	சோம்புதல்	Drowsiness	T.V.Sambasivam Pillai, Pg No: 701, Vol-V
10	தள்ளாடி (தள்ளாடல்)	நடக்கும் போதும் நிற்கும் போதும் தடுமாறல்	Motor incoordination in walking	T.V.Sambasivam Pillai, Pg No:917, Vol-IV (part 1)
11	இடைந்து (இடை)	பக்கம்	Side	T.V.Sambasivam Pillai, Pg No: 736, Vol-I
12	வீழ்ந்தும் (வீழ்தல்)	வீழுதல்	Cause to fall	N.Kathiraiverpillai Tamil Dictionary, Pg No: 1321 Tranquebar Tamil – English Dictionary Pg No: 650
13	வெம்பும் (வெம்பல்)	வாடல்	Fade	N.Kathiraiverpillai Tamil Dictionary, Pg No: 1325 Tranquebar Tamil – English Dictionary Pg No: 653
14	பாம்பு	அரவு	Snake	N.Kathiraiverpillai Tamil Dictionary, Pg No: 1009 Tranquebar Tamil – English Dictionary Pg No: 510

15	விஷம்	நஞ்சு	Poison	N.Kathiraiverpillai Tamil Dictionary, Pg No: 1289 Tranquebar Tamil – English Dictionary Pg No: 637
16	மிக்கான (மிக்கு)	மிகுதி	Much	N.Kathiraiverpillai Tamil Dictionary, Pg No: 1171 Tranquebar Tamil – English Dictionary Pg No: 579
17	சரீரமெல்லாம் (சரீரம்)	உடல்	Body in general	N.Kathiraiverpillai Tamil Dictionary, Pg No: 600 Tranquebar Tamil – English Dictionary Pg No: 281
18	தளர்ச்சியாகும் (தளர்ச்சி)	சோம்பல்	Weakness	N.Kathiraiverpillai Tamil Dictionary, Pg No: 763 Tranquebar Tamil – English Dictionary Pg No: 382
19	புள்ளு (புள்)	பறவை	Bird in general	N.Kathiraiverpillai Tamil Dictionary, Pg No: 1070 Tranquebar Tamil – English Dictionary Pg No: 538
20	பரப்பு	அகலம்	Expand	N.Kathiraiverpillai Tamil Dictionary, Pg No: 967 Tranquebar Tamil – English Dictionary Pg No: 495

**ANALOGY BETWEEN SAGE YUGI'S TEXT AND MODERN SYSTEM OF  
CLASSIFICATION:**

**AS PER YUGI VAITHIYA SINTHAMANI**

“தம்பமாய் நடக்கும் போதுந் தரித்து  
தாவியே யுயரமா யெட்டும் போதும்  
வம்பமாய் பள்ளத்தி லிறங்கும் போதும்  
மயக்கமாய்த் தள்ளாடி இடைந்து வீழ்ந்தும்”

**AS PER MODERN ASPECT**

“... Unsteadiness when walking is the main complaint rather than a tendency to deviate to a particular side...”

*Ref: Owen Epstein, Clinical examination, Mosby, 3<sup>rd</sup> Edition, 2003, Pg no: 357.*

“... Imbalance usually during the process of rising from a chair, assuming the upright stance with the feet together, or performing some other activity while standing. Once a desired position is reached, imbalance may be surprisingly mild. As walking begins, the imbalance recurs...”

*Ref: Harrison, Principle of Internal Medicine, Volume I, McGraw Hill, 16<sup>th</sup> Edition, 2005, Pg No 134-141.*

“... the patient may have difficulty maintaining balance when sitting, and unassisted walking may be impossible...”

*Ref: Meeleod, Clinical Examination, Harcourt Publishers Limited, 2000, Pg no 224.*

### **AS PER YUGI VAITHIYA SINTHAMANI**

“வெம்புமாம் பாம்புவிஷ மேதும் போல  
மிக்கான சரீரமெல்லாந் தளர்ச்சி யாகும்”

### **AS PER MODERN ASPECT**

“... Muscle tone is often mostly reduced.”

*Ref: Harrison, Principle of Internal Medicine, Volume I, McGraw Hill, 16<sup>th</sup> Edition, 2005, Pg no 134-141.*

“... There is a decrease in resistance to the passive movements of the joints...”

*Ref: R. Alagappan, Manual of Practical Medicine, Jaypee Brothers Medical Publisher (P) Ltd, 4<sup>th</sup> Edition, 2011, Pg no 501.*

“... Muscle tone may be reduced...”

*Ref: Hutchison, Clinical methods, Harcourt Publishers Limited, 21<sup>st</sup> Edition, 2002, Pg no 223.*



## AS PER YUGI VAITHIYA SINTHAMANI

“சிம்பமாம் புள்ளுப்போல் பரப்பு காணும்”

## AS PER MODERN ASPECT

“...Patient has difficulty maintaining balance; they attempt to compensate by separating their feet widely while standing or walking, thus increasing their base of support ....”

*Ref: Eric. R. Kandel, Principles of Neural Science, McGraw-Hill, Health, Progressional Division, 2000, 4th Edition.*

“... Imbalance by walking with the legs widely separated...”

“... is a broad based gait disorder in which the speed and length of stride varies irregularly from step to step...”

*Ref: Harrison, Principle of Internal Medicine, Volume I, McGraw Hill, 16<sup>th</sup> Edition, 2005, Pg No 134-141.*

“... When walking, the patient will use a wide based gait...”

*Ref: Owen Epstein, Clinical examination, Mosby, 3<sup>rd</sup> Edition, 2003, Pg no: 359.*

“... The gait may be wide based, and there may be unsteadiness of both gait and standing posture...”

*Ref: Meeleod, Clinical Examination, Harcourt Publishers Limited, 2000, Pg no 224.*

## 5. REVIEW OF LITERATURE – SIDDHA ASPECT

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### DISEASE:

“வாதபித்த ஐய மூன்றும் வன் பலத்துடனே தத்தம்  
பேதம் ஒன்றில்லா வண்ணம் பேசிய தானந்தன்னில்  
நீதியாய் நிலைத்து நின்றால் நெடும்பிணி சிக்கவில்லை  
தாதுவும் ஒன்றோடொன்று தாவிடில் பிணிகள்தாமே  
- குணவாகடம்

According to Gunavagadam, any derangement in three humours (Vatham, Pitham and Kabam), Seven constituents of the body (Udal thathu) leads to disease.

### 5.1. INTRODUCTION TO VATHAM

#### 5.1.A. SITE OF THE VATHAM:

“வளிமுதலா யெண்ணியமுகக் குற்ற மெல்லாம்  
வாழ்வதெனும் தேகமுற்றும் பம்பிப் பரந்து  
தெளிவுறச் சாற்றும்நாபிக் குக்கீழ் வாதம்”.....  
- மருத்துவத் தனிப் பாடல்

According to Maruththuva Thani Padal, all the three humours are spreads throughout the body. Predominant areas of the Vatham in the body are below the umbilicus.

“நாமென்ற வாதத்துக் கிருப்பிடமே கேளாய்  
நாபிக்குக் கீழென்று நவில லாகும்”  
- யூகி முனிவர்

According to Sage Yugi, the places of Vatham are below the umbilicus.

“அபானமுத் லுந்திவரை வாதநிலை”  
- அனுபோக வைத்திய பிரம் ரகசியம்

According to Anuboga vaithiya Pirama Ragasiyam, the places of Vatham between the navel regions to umbilicus.

“செப்பு முந்தி சிதையும் வாதநிலை

- வைத்தியசார சங்கிரகம்

According to Vaithiya Sara Sankiragam, the placea of Vatham between the navel regions to umbilicus.

#### 5.1.B.CHARACTERISTIC FEATURES OF VATHAM:

“வளியின் பண்பு நெகிழ்ச்சி பரவல்

வறட்சி விரைதல் தட்பம் நுட்பம்”

- மருத்துவத் தனிப் பாடல்

According to Maruthuva Thani Paadal, the characteristic features of Vatham are spreading throughout, dryness, warmth and minute.

#### 5.1.C.QUALITIES MANIFESTED WHEN VATHAM INCREASED:

“வாதங் கடுமை வறட்சியுடன் நொய்மை

சீதஞ் சலனம் சிதறணுவு - ஏதமுட

னிக்குணத்தோ றுற்றே யியக்கந் தருமளவிற

றக்க பரிகாரந் தா

- கண்ணுசாமியம்

According to Kannusamiyam, the six different qualities manifested when Vatham increased. They are as follows

- |             |   |           |
|-------------|---|-----------|
| 1. கடுமை    | - | Hardness  |
| 2. வறட்சி   | - | Dryness   |
| 3. நொய்மை   | - | lightness |
| 4. சீதம்    | - | Chillness |
| 5. சலனம்    | - | Mobility  |
| 6. சிதறணுவு | - | Particles |

#### 5.1.D.QUALITIES MANIFESTED WHEN VATHAM DECREASED:

“வாதகுண மாறுக்கும் மாறுகுணமே நோக்கின்  
ஓதமிரு தீரம் உயர்பாரம் - போதரவா  
யுள்ளே தீயோ டுறுதியுற்றுத் திரளாக  
உள்ள குணத்தையே ஊட்டு”

- கண்ணுசாமியம்

According to Kannusamiyam, the six different qualities manifested when Vatham decreased. They are as follows

- |           |   |           |
|-----------|---|-----------|
| 1. மிருது | - | Soft      |
| 2. ஈரம்   | - | Moist     |
| 3. பாரம்  | - | Heaviness |
| 4. தீ     | - | Hot       |
| 5. உறுதி  | - | Stability |
| 6. திரள்  | - | Mass      |

#### 5.1.E.PROPERTIES OF VATHAM:

“ஓங்குடனே தாதேழ் மூச்சோங்கி இயங்க  
எழுச்சிபெற எப்பணியுமாற்ற - எழுந்திரிய  
வேகம் புலன்களுக்கு மேவச் சுறுசுறுப்பு  
வாகளிக்கும் மாந்தருக்கு வாயு”

- மருத்துவத் தனிப் பாடல்

According to Maruththuva Thani Padal, natural properties of Vatham as follows

1. To respiration
2. To stimulation
3. To activate the Body, Mind and Intellect
4. To regulate the fourteen natural reflexes
5. To activate the seven physical constituents
6. Give strength to the five sense organs.

#### **5.1.F. INTER RELATION AMONG ELEMENTS AND VATHA HUMOUR:**

The Vatham humour composed of Vayu (Air) and Agayam (Space).

#### **5.1.G.THE TASTE WHICE CAN INCREASE THE VATHAM HUMOUR:**

“புளிதுவரவிஞ் சுங்கறியார் பூரிக்கும் வாதம்”

Vatham will increase due to the intake of foodstuffs having sourness and astringency.

#### **5.1.H.THE TASTE WHICH CAN NUTROZE THE VITIATED VATHAM:**

“வாத மேலிட்டால் மதுரம் புளியுப்பு”

- கண்ணுசாமியம்

According to Kannusamiyam, the taste of sweet, sour and salt will neutralize the vitiated Vatham.

#### **5.1.I.THE CONNECTION BETWEEN THE VATHAM AND UDAL THATHU:**

Vatham – Bone

#### **5.1.J.ASCERTAINING THE LIFE SPAN IN VATHAM HUMOUR:**

“ஆனநடு வயதுபித்த மப்பால் வாதம்

- சதக நாடி

“வன்னநடுவிற் பித்தமதா

மப்பால் வாதமதுவாகும்சி

- இரத்தினச் சுருக்க நாடி

For human beings, the life span has been fixed as hundred years. This period is divided into three equal parts; the third as Vatham part. Each divisions of period consist of thirty three years and four months.

### 5.1.K.THE STATE OF PROMINENCE OF VATHAM ON EACH DAY:

“காலையில் வாதநாடி கடிகையில் பத்தாகும்”

- வைத்திய சாராங்க சங்கிரகம்

During day time, in 12 hours Vatham will be prominent for four hours from sunrise, i.e. 6 a.m to 10 p.m. the same time continues from the sunset up to the next morning.

### 5.1.L.THE PROMINENCE AND EFFECT OF THE VATHAM DURING THE WEEK:

“சந்திரநாட் காலையில் வாதம்

நடந்திடில் சுகமெய்தும்”

- கையெழுத்துப்பிரதி

If Vatham predominant in the morning during Monday, Wednesday, Friday and Thursday in Sukkila patcham (Waxing moon) the body will be healthy.

### 5.1.M.THE TIME WHEN THE VATHAM PROMINENT DURING THE MONTH:

“கடக முதல் துலாம்வரையும் வாத மாகும்

கண்ணாடி யைப் பசியு மதுவேயாகும்”

- பதினென் சித்தர் நாடி

The months during which Vatham will be prominent are from Aadi to Iaippasi (July 15<sup>th</sup> to November 15<sup>th</sup>).

“வேதமுறையின்படி வாதமது வர்த்தனை காலமது வித்திரது ஆனிஆடி

விள்ளுவேன் ஆவணி புரட்டாசி ஐப்பசி விடுகார்த்திகை

மாதமிவையும்”

- வாதநோய் நிதானம் 800

The months during which Vatham will be prominent are from Aani to Karthigai (June 15<sup>th</sup> to December 15<sup>th</sup>).

### 5.1.N.TYPES OF VATHAM:

“முறைமையாம் பிராணனோ டபானன் வியானன்  
மூர்க்கமா முதானனோடு சமான னாகன்  
திறமையாங் கூர்மனோடு கிருக ரன்றான்  
தேவதத்த னொடுதனஞ் சயனு மாகும்”

- யுகிமுனி சிந்தாமணி

The Vatham seems to be the same; it has got ten different forms and actions.

They are as follows:

- |                 |   |                                     |
|-----------------|---|-------------------------------------|
| 1. Pranan       | - | Air of Life                         |
| 2. Abanan       | - | Air with downward motion            |
| 3. Viyanan      | - | Air which spreads throughout        |
| 4. Udhanan      | - | Air with upward motion              |
| 5. Samanan      | - | Air of balancing                    |
| 6. Nagan        | - | Air of higher intellectual function |
| 7. Koorman      | - | Air of yawning                      |
| 8. Kirukaran    | - | Air of salivation                   |
| 9. Devadhathan  | - | Air of laziness                     |
| 10. Dhananjeyan | - | Air that acts on Death              |

### 5.1.O.CAUSES FOR VATHA DISEASES:

“வாதபிணி தேகமது மோதும் விதமானது வருந்திகேள் இத்தரையினில்  
வளமாய் கசப்பு புளி துவர்ப்பதிகம் உண்ணலால் மதுகள் குடிப்பதாலும்  
பேதமுறவே பழைய அன்னமது உண்ணலால் பகல் உறங்குவதினால்  
பொருந்தும் இரவது தன்னிலே உறக்கம் ஒழிவதால் பட்டினி இருப்பதாலும்  
மாதுகளோடு அதிகமாய் விரும்பலால் மலஜலம் அடக்குவதினால்  
மண்புவியில் அதிகலெகரி நடை ஒடிவுமுறிவு நரம்பு பின்னலாலும்  
ஓது ஜலம் மாறி மாறியே குளிக்கலால் ஊறணியில் சேறு நீறால்  
உறவான பனி காற்று அதிகம் விரும்பலால் உஷ்ணம் கொள்ளுவதினால்

காயமது உலைவதால் ஓயாத வேலையால் கனசுமடு எடுப்பதாலும்

கரிய பனைகள் ஏறலால் காலை வெயில் கொள்ளலால் காரமுறு

வேவினாலும்

நேயமொடு சோரையது வற்றியே நாளமதில் நீர்கொள்ளும் ஏதுவாலும்

நேரான வாய்வெழுந்து பித்த சேர்ப்பங்களை நெருக்கியே மோதுவதனால்

.....

.....”

- வாதநோய் நிதானம் 800

According to Vatha Noi Nithanam – 800, the common causes for Vatha diseases are excessive intake of taste like bitter, astringent, and pungent, Alcohol intake, having previous day foods, disturbed sleep at night due to day time sleeping, fasting, controls bladder and bowel, taking bath in different water source, excessive walk, bone fracture, exposed to excessive heat and cold, excessive work, climbing the palm tree, and exposed to morning sunlight.

#### 5.1.P.COMMON SYMPTOMS OF VATHA DISEASE:

“ஓயாது தேகமது காயமுடல் நோகுமே ஒத்துவரும் குறுக்குளையுமே

உறுகால் கரங்களும் நடுவோடு இடுப்பதும் உறுதலைநாயர்ந்து தளரும்

மாயாமலே பனி குளிரோடு உடல் வலி மாறு தலை நோவு பெரு தாகமும்

மருவியெழும் உடல் சோர்வு ஆயசமானதும் மாறாமல் உடல் வேதனை

சாருமினி வாயுவது பக்குவாசயத்திலே சார்ந்திடும் காலமதிலே

சாற்று தலையோடு இடுப்பு தொடை யானதும் கைகால் களைக்கும் அறிநீ

பாருமினி ஆந்திரம் சூலையுடன் மூலநோய் பாராத வைசூரியும்

பண்புபெறு வாய்வு அது ஆமாசயத்திலே பாய்ந்து எழும் அதினால்

நேருமினி காயசுவாசமும் அருசியும் நீர்தாகம் சர்த்தியுண்டாம்

நிலையாகவே வாய்வு அது சுக்கிலாசயம் தன்னிலே நேராகவே புக்கிடும்

அதினால்

சீருரிய இந்திரியமது சூடேறுமே சேரும் ஆயசம் தளர்ச்சை

சொருமியது வற்றும் இந்திரியமது தானுமே தேகம் அயர்ந்து போகும்

தக்கபடியே தொக்குதனில் வாய்வு அதுபுக்கிடில் தளராத கரப்பன் குட்டம்

தப்பாது கிருமி நோய் தழுவணை வெளுப்புகள் தழவி உடல் வாடி யயரும்

மிக்க இனிய இரத்தமதிலே புக்குமாகிலோ மிகுதேகமது நோகுமே

மேவியே தரிப்புறும் நிறம் மாறிவரும் மிக்க அன்னம்தான் வெறுக்கும்



ஒக்கும் உடல் கருகியே தேகமது மெலியுமே அகம் தளர்ந்து அயரும்  
 உறவாக வறளும் உடல் பரதாபம் மேவியே ஒத்த கைகால் அயரும்  
 சிக்கிநின்ற வாய்வு அது மேதயிலே புக்கில் தேகம் கனத்து நோகும்  
 செருமியது துரித நடை அயருமே சீறும் கைகால் உளைந்து அயரும்  
 ஒத்தினிய அஸ்தியில் வாய்வு அது புக்கியே ஒத்த எல்லு மிகவே தரிக்கும்  
 உறவாய் பொருத்துகள் நோகும் தளருமே உற்ற நீருமிகவாகும் அதிலே  
 பத்தினொடு மச்சையில் வாய்வு அது புக்கிலோ பகர் எல்லு வறண்டு கழலாய்  
 பகருமதிலே கொழுப்புற்று விடுமேயறி பருத்தி படுமணல் போலவே  
 சத்தியோடு சுக்கிலம் அதில் வாய்வு புக்கினால் சிதறுமே விந்து தன்னால்  
 சேரும் அதிகமோடு நீரிழிவுமேயுறும் தேகம் அயர்ந்து போகும்  
 தத்திய பஞ்ச இந்திரியமது புக்கிடில் இந்திரியம் அற்று மாறும்  
 தகுமான பிலவனும் தளர்ந்தே அயருவான் பாலனும் கிழவனாவான்  
 கோரமுறவே வாய்வு நாளமதிலே புக்கில் கொள்ளுமே திமிர் நரம்பில்  
 கைகால் முடக்கமது செய்யுமே அதுஅறி கூட்டியே நீட்டல் அகலும்  
 பாரமுறு சந்துகளில் வாய்வு புகுமாகிலோ பற்றி தரித்து முடங்கும்  
 பாங்காய் பொருத்துகளில் நீருவந்தே புகும் பலதுசெய்யும் விசனமதுவும்  
 சேரமுற கண்ணிலொளி மங்கி செவி மந்தமாம் சேர் சர்வாங்கமே புக்கினால்  
 தேகமது கூனும் இனி எல்லும் தரிக்குமே சேலோடு ரத்தமது வற்றி அயரும்  
 சாரமுறும் ஆக்கையது எங்குமே ஸ்தம்பமாய் தள்ளாடி உள் அயர்ந்து  
 சங்கையோடு கைகால் பாதமுதல் சிரசுவரை சர்வாங்கம் விறையலுண்டாம்  
 வாதமது தேகமதில் மோதுமாகிலோ பாலனும் சீண்ணாவான்  
 வலுவாகவே குடி கொள்ளுமாகில் தேகமே அங்கமோடு பாழுமாகும்  
 நாதமதுவே அறும் கைகால் முடக்கமாம் நாவு தடுமாறலாகும்  
 நளினமொரு இளம் வயதில் நரைதிரைகளாகுமே நயனமது ஒளிகுறையுமே”

- வாதநோய் நிதானம் 800

According to Vatha Noi Nithanam – 800, the common symptoms for Vatha diseases are as follows:

1. Generalised body pain
2. Low back pain
3. Rigor due to chillness
4. Head ache
5. Excessive thirst
6. General tiredness
7. Fatigue

If the Vatha humour accumulate in digestive organs,

1. Tiredness in low back, thigh, upper limb and lower limb
2. Bowel
3. Painful piles
4. Small pox

If the Vatha humour accumulate in stomach

1. Tastelessness
2. Thirst of water
3. Vomit
4. General tiredness

If the Vatha humour accumulate in reproductive system

1. Fatigue
2. Weakness in genital organ
3. Reduced reproductive function
4. General tiredness

If the Vatha humour accumulate in

1. Eczema
2. Leprosy
3. Worms or parasite infections
4. Ringworm

If the Vatha humour accumulate in blood

1. Body ache
2. Colour Retention
3. Hate to eat
4. Growing lean
5. Dryness of the body
6. General tiredness

If the Vatha humour accumulate in muscles

1. Weight gain with pain
2. Reduced walking
3. General tiredness in upper and lower limb

If the Vatha humour accumulate in bone

1. Bone weakness
2. Pain, weakness, and swelling in joints

If the Vatha humour accumulate in bone marrow

1. Dryness in bone
2. Fat accumulation in bone

If the Vatha humour accumulate in semen

1. Expulsion of semen
2. Venereal disease
3. Diabetes
4. General tiredness

If the Vatha humour accumulate in blood vessels

1. Movement reduction in upper and lower limb

If the Vatha humour accumulate in joints

1. Movement reduction in joints
2. Swelling
3. Restlessness

If the Vatha humour accumulate in whole body

1. Forward bending of the body
2. Bone weakness
3. Blood reduction
4. General tiredness
5. Stiffness in whole body

#### **5.1.Q.CLASSIFICATION OF VATHA DISEASE:**

"வாதமது எண்பத்தி நாலதின் பெயரு கேள்....."

- வாதநோய் நிதானம் 800

"பாரப்பா வாதமது எண்பத்திநாலு"

-அகத்தியர் இரத்தினச் சுருக்கம்-500

".....மற்றமே வாதரோகம் வகையு எண்பத்து நாலே"

- அகத்தியர் குருநாடி 235

"....மட்டமாம் வாதம் எண்பதுவும் போகும்....."

- போகர் வைத்தியம் 700

"என்னவே வாதமது எண்பதாகும்"

- யுகி வைத்திய சிந்தாமணி

According to Vatha Noi Nithanam – 800, Agathiyar Rathina Churukkam – 500, and Agathiyar Guru Naadi -225, the Vaztha diseases are classified as 84 in number and according to Bogar Vaithiyam – 700 and Yugi Vaithiya Sinthamani, the Vaztha diseases are classified as 80 in number.

## 5.2.VATHAKANNAGAM:

“தம்பமாய் நடக்கும் போதுந் தரித்து  
தாவியே யுயரமா யெட்டும் போதும்  
வம்பமாய் பள்ளத்தி லிறங்கும் போதும்  
மயக்கமாய்த் தள்ளாடி இடைந்து வீழ்ந்தும்  
வெம்புமாம் பாம்புவிஷ மேதும் போல  
மிக்கான சரீரமெல்லாந் தளர்ச்சி யாகும்  
சிம்பமாம் புள்ளுப்போல் பரப்பு காணும்  
செறிவாத கண்ணகச் சிறப்பு மாமே

- யுகி வைத்திய சிந்தாமணி

According to Yugi Vaithiya Sinthamani, Vathakannagam is one of the Vatha diseases. As by Sage Yugi's lines, clinical features of the Vathakannagam are as follows

- Tripping, tottering and staggering in dizziness while climbing up or getting down or trying to step high off the ground
- General weakness in the whole body due to relaxing of the muscles
- Spreading wide the limbs as it were as wings of the bird.

## **6. PATHOLOGY OF VATHAKANNAGM**

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The basic constitution of the body is made up of 96 Thathuvam. Due to diet and other activities 96 Thathuvam get deranged and results in diseases.

Due to increased intake of Vatham producing diet (Increased intake of sour and astringent taste foods) and Vatham prone activities (like frequent starvation, intense fear, and increased irritability) the Vatham humour of the body gets derangement. If the deranged Vatham is not treated, it will be extensive and would affect the other two humours and thus the ratios of three humours are altered.

### **6.1.DERANGED 96 THATHUVAM ARE AS FOLLOWS:**

#### **6.1.a. BOOTHAM (BASIC ELEMENTS):**

- Piruthivi - Weakness in the whole body
- Vaayu - Difficulty to walk due to weakness in the whole body

#### **6.1.b.PORI (SENSORY ORGANS):**

- Mei - Weakness in the whole body

#### **6.1.c.KANMENTHIRIYAM (MOTOR ORGANS):**

- Vaai - Difficulty in speech
- Kaal - Weakness in both lower limbs
- Kai - weakness in both upper limbs

#### **6.1.d.GNANENTHIRIYAM (FUNCTIONS OF MOTOR ORGANS):**

- Vasanam - Difficulty in speech
- Kamanam - Difficulty in walk
- Dhaanam - Difficulty to give and take

#### **6.1.e.KARANAM (INTELLECTUAL FACULTIES):**

- Siddham - Difficulty to complete the desire task

### **6..1.f.NAADI:**

- |          |   |   |
|----------|---|---|
| Idakalai | - | Weakness in right upper and lower limbs |
| Pinkalai | - | Weakness in left upper and lower limbs  |

### **6.1.g.VAAYU (VITAL AIRS):**

- |              |   |  |
|--------------|---|--|
| Viyanan      | - | Difficulty to activate voluntary and involuntary movements of the body |
| Samanan      | - | Difficulty in balancing the other four Vaayu                           |
| Koorman      | - | Weakness in the whole body   |
| Devathatthan | - | Weakness in the whole body   |

### **6.1.h.KOSAM (SHEATH):**

- |                   |   |   |
|-------------------|---|---|
| Annamaya Kosam    | - | Weakness in the whole body  |
| Piranamaya Kosam  | - | Difficulty in speech, Weakness in both lower limbs                                    |
| Manomaya Kosam    | - | Weakness in the whole body  |
| Vinganamaya Kosam | - | Difficulty to complete what has been thought and enquires, Weakness in the whole body |

## **6.2.DERANGED UYIR THATHUKKAL:**

### **(HUMOURAL OR TRIDHOSAM PATHOLOGY):**

Pancha bootham are manifested in the body as three vital forces, i.e., Vatham, Pitham, and Kabam.

### **6.2.1.VATHAM:**

- |              |   |  |
|--------------|---|--|
| Viyanan      | - | Difficulty to activate voluntary and involuntary movements of the body |
| Samanan      | - | Difficulty in balancing the other four Vaayu                           |
| Koorman      | - | Weakness in the whole body   |
| Devathatthan | - | General tiredness due to weakness in the whole body                    |

### **6.2.2.PITHAM:**

Saathagam - Difficulty to work due to weakness in the whole body

### **6.2.3.KABAM:**

Avalambagam - Difficulty to control Santhiga Kabam

Santhigam - Difficulty in moving the joints freely and easily due to weakness in the whole body

### **6.3.DERANGED UDAL THATHUKKAL:**

Oon - Weakness in the whole body

### **6.4.DERANGED IN VEGANGAL:**

Malam - General weakness

## 7. DISCUSSION OF DIFFERENTIAL DIAGNOSIS

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In medicine, differential diagnosis is the distinguishing of a particular disease or condition from others that present similar clinical features. Differential diagnosis procedures are used by physicians and other trained medical professionals to diagnose the specific disease in a patient, or at least to eliminate any imminently life threatening conditions.

More generally, a differential diagnostic procedure is a systemic diagnostic method used to identify the presence of disease entity where multiple alternatives are possible. Differential diagnosis can be regarded as implementing aspects of the hypothetico – deductive method, in the sense of that the potential presence of candidate diseases or conditions can be viewed as hypothesis that physicians further determine as being true or false.

வாதகண்ணகம்

“தம்பமாய் நடக்கும் போதுந் தரித்து

தாவியே யுயரமா யெட்டும் போதும்

வம்பமாய் பள்ளத்தி லிறங்கும் போதும்

மயக்கமாய்த் தள்ளாடி இடைந்து வீழ்ந்தும்

வெம்புமாம் பாம்புவிஷ மேதும் போல

மிக்கான சரீரமெல்லாந் தளர்ச்சி யாகும்

சிம்பமாம் புள்ளுப்போல் பரப்பு காணும்

செறிவாத கண்ணகச் சிறப்பு மாமே

- யூகி வைத்திய சிந்தாமணி



## தன்னக வாதம்

திண்ணமொடு தன்னக வாதமது தன்மைகேள் திருந்துமுடல் புண்ணாக நோம்  
திறமாகவே தலை சிற்றும் கிறக்கவும் திடம் தள்ளாடி உடலு  
எண்ணமுடன் ஏற்றமதிலேறவும் இறங்கையில் ஏறி நடையில் மயங்கி வீழ்ந்து  
எரிவாகவே அயர்வு கடி விசம் போலவே பரபரனே ஏறும் உடலில்  
விண்ணமொடு கைகால் முடக்கும் இடையானதும் உணங்கும் தளரும்  
வளமாய் தரிக்கும் இரு சென்னிவலியே மிகும் கண்ணிலே நீறு பாயும்  
மண்ணுலகிலுள்ள மனுவோர் இதை அறிய வாகடம் மறவாமல் ஒளியாகவே  
மருவு தமிழாக இது பொதிகா சாலை முனியுரை வையகத்தோதினதிதுவே  
-வாத நோய் நிதானம் – 800

**Table: 48. Information about similarities with Thannaga vatham**

SIMILARITIES	
VATHAKANNAGAM	THANNAGA VATHAM
“தம்பமாய் நடக்கும் போதுந் தரித்து தாவியே யுயரமா யெட்டும் போதும் வம்பமாய் பள்ளத்தி லிறங்கும் போதும் மயக்கமாய்த் தள்ளாடி இடைந்து வீழ்ந்தும்”	“திறமாகவே தலை சுற்றும் கிறக்கவும் திடம் தள்ளாடி உடலு எண்ணமுடன் ஏற்றமதிலேறவும் இறங்கையில் ஏறி நடையில் மயங்கி வீழ்ந்து”
“Tripping, tottering and staggering in dizziness while climbing up or getting down or trying to step high off the ground”	“Giddiness, unsteadiness and slipping while climbing up and down the stairs and walking”

**Table:49. Information about disimilarities with Thannaga vatham**

<b>DISIMILARITIES</b>	
<b>VATHAKANNAGAM</b>	<b>THANNAGA VATHAM</b>
<p>“வெம்புமாம் பாம்புவிஷ மேதும் போல மிக்கான சரீரமெல்லாந் தளர்ச்சி யாகும்”</p> <p>“General weakness in the whole body due to relaxing of the muscles”</p>	<p>“எரிவாகவே அயர்வு கடி விசம் போலவே பரபரனே ஏறும் உடலில்”</p> <p>“General tiredness in the whole body”</p> <p>“விண்ணமொடு கைகால் முடக்கும் இடையானதும் உணங்கும் தளரும் வளமாய் தரிக்கும் இரு சென்னிவலியே மிகும் கண்ணிலே நீறு பாயும்”</p> <p>“ joints restriction in upper and lower limb, weakness in hip, and head ache</p>

### **தனு வாதம்**

அணுகி வரும் தனு வாதம் தன்மை கேளு அதிர் குதிகாலு ஊன்றிடாது  
அணி விரல்களது துடிக்கும் விறைக்கும் அது கோச்சி தரிக்கும் உளையும்  
நணுக பூமி மீதினிலே நடந்துடுமாகிலோ நடை தெற்றிமலர்ந்து விழுந்தயரும்  
நாடு கைகாலு அது புண்ணாய் உளையுமே நாடறிய குத்து வலியும்  
பணு மூலாதாரமும் தண்டெல்லு பார் கண்டம் முடிச்சு வரையும்  
பதறி விறையாகுமே அயரும் கை தளர்ந்து போம் பல்லோடு தாடி  
கோட்டும்

ஊணு மிகவே குறையுமே தாகமதிதாய் எழும் உடல் தாபம் சோபம் மீறும்  
உறவாகவே கும்பமுனி ஓதினார் தனுவாதம் உற்ற குணமறிகுவாய்

-வாத நோய் நிதானம் – 800

**Table: 50. Information about disimilarities with Thanu batham**

SIMILARITIES	
VATHAKANNAGAM	THANU VATHAM
<p>“தம்பமாய் நடக்கும் போதுந் தரித்து தாவியே யுயரமா யெட்டும் போதும் வம்பமாய் பள்ளத்தி லிறங்கும் போதும் மயக்கமாய்த் தள்ளாடி இடைந்து வீழ்ந்தும்”</p> <p>“Tripping, tottering and staggering in dizziness while climbing up or getting down or trying to step high off the ground”</p>	<p>“நணுக பூமி மீதினிலே நடந்துடுமாகிலோ நடை தெற்றிமலர்ந்து விழுந்தயரும்”</p> <p>“Unsteadiness and slipping while walking”</p>

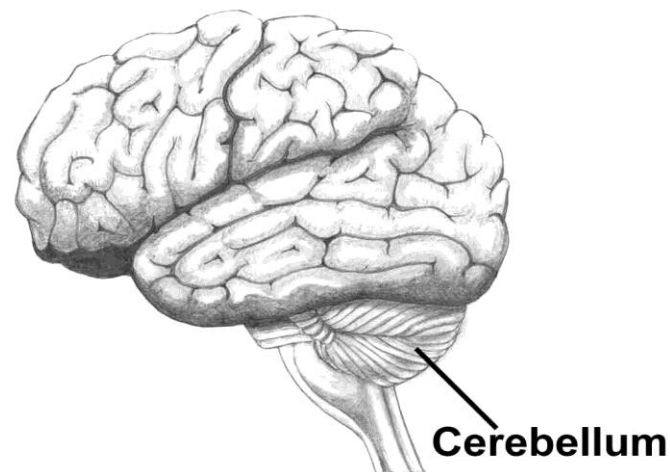
**Table: 51.Information about disimilarities with Thanuvatham**

DISIMILARITIES	
VATHAKANNAGAM	THANU VATHAM
<p>“வெம்புமாம் பாம்புவிஷ மேதும் போல மிக்கான சரீரமெல்லாந் தளர்ச்சி யாகும்”</p> <p>“General weakness in the whole body due to relaxing of the muscles”</p>	<p>“.....கை தளர்ந்து போம்.....”</p> <p>“Weakness in hand”</p>

## 8. REVIEW OF MODERN LITERATURE

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### **CEREBELLUM:**

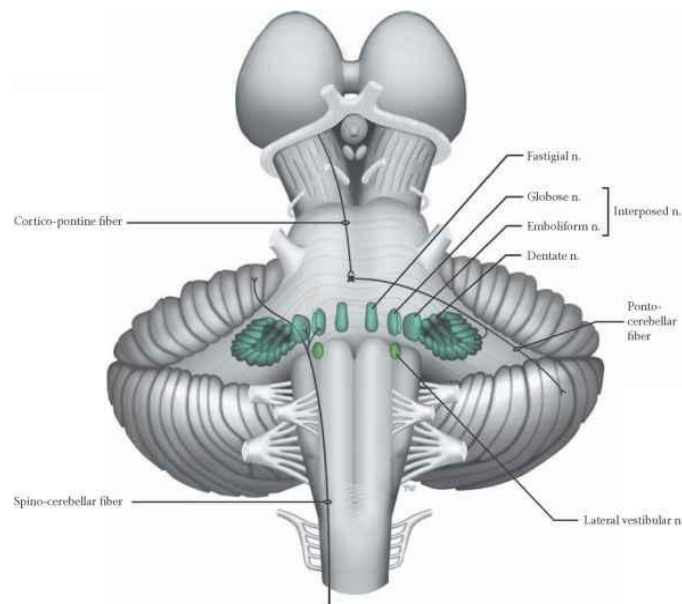


The cerebellum constitutes of only 10% of the total volume of the brain but contains more than one half of all its neurons. These neurons are arranged in a highly regular manner as repeating units. Despite its structural regularity the cerebellum is divided into several distinct regions, each of which receives projections from different portions of the brain and spinal cord and projects to different motor systems. These features suggest that regions of the cerebellum perform similar computational operations but on different inputs.

The cerebellum influences the motor system by evaluating disparities between intention and action and by adjusting the operation of motor centres in the cortex and the brain stem while a movement is in progress as well as during repetitions of the same movement. Three aspects of the cerebellum's organization underlie this function. First, the cerebellum is provided with extensive information about the goals, commands, and feedback signals associated with the programming and execution of movements. Second, the output projections of the cerebellum are focused mainly on the pre-motor and motor systems of the cerebral cortex and brain stem; systems that control spinal interneurons and motor neurons directly. Third, synaptic transmission in the circuit modules can be modified, a feature that is crucial for motor adaptation and learning.

Removal of the cerebellum does not alter sensory thresholds or the strength of muscle contraction. Thus the cerebellum is not necessary to basic elements of perception or movement. Rather, damage to the cerebellum disrupts the special accuracy and temporal coordination of movement. It impairs balance and reduces muscle tone. It also markedly impairs motor learning and certain cognitive functions.

### **FUNCTIONALLY DISTINCT REGIONS:**



The cerebellum occupies most of the posterior cranial fossa. It is composed of an outer mantle of gray matter (the cerebellar cortex), internal white matter, and the three pairs of deep nuclei: the fastigial, the interposed, and the dentate. The cerebellum is connected to the dorsal aspect of the brain stem by three symmetrical pairs of tracts: the inferior cerebellar peduncle (restiform body), the middle cerebellar peduncle (brachium pontis), and the superior cerebellar peduncle (brachium conjunctivum). The superior cerebellar peduncle contains most of the efferent projections.

A striking feature of the surface of the cerebellum is the presence of many parallel convolutions called folia (leaves) that run from side to side. Two deep transverse fissures divide the cerebellum into three lobes. The primary fissure on the dorsal surface separates the anterior and posterior lobes, which together form the body of the cerebellum. The posterolateral fissure on the ventral surface separates the body from the much smaller flocculonodular lobe. Sagittal section through the midline

shows that shallower fissures further subdivided each lobe into several lobules comprising a variable number of folia.

Two longitudinal furrows, which are most prominent ventrally, distinguish three mediolateral regions that are important functionally. The furrows define an elevated ridge in the midline known as the vermis. On either side of the vermis are the cerebellar hemispheres, each of which divided into intermediate and lateral regions. The three mediolateral regions of the body of the cerebellum and the flocculonodular lobe receive different afferent inputs, project to different parts of the motor system, and represent distinct functional subdivisions.

The flocculonodular lobe is the most primitive part of the cerebellum, appearing first in fishes. Its cortex receives inputs directly from primary vestibular afferents and projects to the lateral vestibular nuclei. In higher vertebrates its function is limited to controlling balance and eye movements and is thus called vestibulocerebellum.

The vermis and hemispheres develop later in phylogeny. The vermis receives visual, auditory and vestibular input as well as somatic sensory input from head and proximal part of the body. It projects by way of the fastigial nucleus cortical and brainstem regions that give rise to the medial descending systems that control proximal muscles of the body and limbs. The vermis governs posture and locomotion as well as gaze. The adjacent intermediate part of the hemisphere also receives somatosensory input from the limbs. This region projects via the interposed nucleus to lateral corticospinal and rubrospinal systems and thus controls the more distal muscles of the limbs and digits. Because the vermis and intermediate hemispheres are the only regions to receive somatosensory inputs from the spinal cord, they are often called the spinocerebellum.

The lateral parts of the hemispheres, which are phylogenetically most recent, are much larger in humans and apes than in monkeys or cats. This region receives input exclusively from the cerebral cortex and is thus called cerebrocerebellum. Its output mediated by the dentate nucleus, which projects to motor, premotor, and prefrontal cortices. Recent imaging data indicate that the cerebrocerebellum is intimately involved in planning and, mental rehearsal of complex motor actions and in the conscious assessment of movement errors.

## **NEURONS IN THE CEREBELLAR CORTEX ARE ORGANIZED INTO THREE LAYERS:**

The outermost *molecular layer* of the cerebellar cortex contains the cell bodies of two types of inhibitory inter neurons, the stellate and basket cells, dispersed among the excitatory axons of granule cells and the dendrites of inhibitory Purkinje cells, whose cell bodies lie in deeper layers. The axons of the granule cells in this layer run parallel to the long axis of the folia and therefore are called *parallel fibers*. The dendrites of Purkinje neurons are oriented perpendicular to these axons.

Beneath the molecular layer is the *Purkinje cell layer*, consisting of a single layer of Purkinje cell bodies. Purkinje neurons have large cell bodies and fan like dendritic arborisations that extend upward into the molecular layer. Their axons project into the underlying white matter to the deep cerebellar or vestibular nuclei and provide the output of the cerebellar cortex. This output is entirely inhibitory and mediated by the neurotransmitter  $\gamma$ -aminobutyric acid (GABA).

The innermost or *granular layer* contains vast number of granulecells and a few larger Golgi inter neurons. The mossy fibers, the major source of afferent input to the cerebellum, terminate in this layer. The bulbous terminals of the mossy fibers contact granule cells and Golgi neurons in synaptic complex called *cerebellar glomeruli*.

## **THE VESTIBULOCEREBELLUM REGULATES BALANCE AND EYE MOVEMENTS:**

The vestibulocerebellum (flocculonodular lobe) receives information from the semicircular canals and the otolith organs, which sense motion of the head and its position relative to gravity. Mossy fibers that terminate in the vestibulocerebellar cortex arise from neurons in the vestibular nuclei. The vestibulocerebellar cortex also receives visual input via mossy fibers from the striate cortex, the latter relayed through the pontine nuclei.

Purkinje neurons in the vestibulocerebellum inhibit neurons in the medial and lateral vestibular nuclei. Through the lateral nucleus they modulate the lateral and medial vestibulospinal tracts, which predominantly control axial muscles and limb extensors, assuring balance during stance and gait. The inhibitory projection to the

medial vestibular nucleus controls eye movements and coordinates movements of the head and eyes via the medial longitudinal fasciculus.

Disruption of these projections through lesions or disease impairs an individual's ability to use vestibular information to control eye movements during head rotations and movements of the limbs and body during standing and walking. Patients have difficulty maintaining balance; they attempt to compensate by separating their feet widely while standing or walking, thus increasing their base of support. They move their legs irregularly and often fall, whether their eyes are open or closed. In contrast, patients have no difficulty moving their arms or legs accurately while lying down or when their body and head are supported. This test indicates that the primary difficulty is in using vestibular cues for standing and walking, not in controlling the limbs for all movements.

### **THE SPINOCEREBELLUM REGULATES BODY AND LIMB MOVEMENTS:**

**Somatosensory information reaches the spinocerebellum through direct and indirect mossy fibers pathways:**

Cerebellar afferents from the spinal cord – mainly from somatosensory receptors – are distributed exclusively to the spinocerebellum. Somatosensory information is conveyed to the spinocerebellum through several direct and indirect pathways.

Direct pathways originate from interneurons in the spinal gray matter and terminate as mossy fibers in the vermis or intermediate cortex. Two important pathways are the ventral and dorsal spinocerebellar tracts. These pathways from spinal interneurons provide the cerebellum with somatic sensory information from the legs – notably from the muscle and joint proprioceptors – and with information about descending commands reaching the interneurons.

Recordings from neurons in the dorsal and ventral spinocerebellar tracts of decerebrate cats walking on the treadmill show that both systems are modulated rhythmically and in phase with the step cycle. However, when the dorsal roots are cut, preventing spinal neurons from receiving phase-dependent peripheral excitation, dorsal spinocerebellar neurons fall silent while ventral spinocerebellar neurons



continue to be modulated. This finding demonstrates that the ventral tract carries internally generated information about the central locomotor rhythm as well as rhythmic discharge of somatic sensory receptors, while the dorsal tract provides the cerebellum with sensory feedback only during evolving movements. Other direct pathways provide comparable information from the upper extremities.

Direct pathways from the spinal cord to the cerebellum synapse first with neurons in one of several so called *precerebellar nuclei* in the brain stem reticular formation (the laterall reticular nucleus, reticularis tegmenti pontis, and paramedian reticular nucleus). These inputs provide the cerebellum with different version of the changing state of the organism and its environment and permit comparisons between such signals. Similar monitoring of outgoing commands is as crucial for perception as for movement, since the internal sensory signals resulting from the movement must be distinguished from the external sensory signals in the environment.

### **The spinocerebellum contains sensory maps:**

The initial mapping studies of the spinocerebellum by Edger Ray Sinder in the 1940s revealed two inverted somatic maps. In both maps the head is represented in the posterior vermis, and the representations of the neck and trunk extend on the either side along the dorsal and ventral portions of the vermis. Arms and legs are represented adjacent to the vermis over the intermediate cortex of the hemispheres. Visual input from the superior colliculi and visual cortex is distributed to both vermal and paravermal portions of the posterior lobe.

This early mapping was based on recordings of surface potentials, which reflect the predominant input and provide only a coarse representation of somatotopic connections. More refined mapping studies of the cerebellar cortex based on single cell recordings reveal that input from a given peripheral site, such as a local area of granule cells, an arrangement called a *fractured somatotopy*.

Recent anatomical studies of primates show that the deep cerebellar nuclei are also organized somatotopically. They are arranged to receive projections from the two maps on the dorsal and ventral surface of the intermediate and lateral zones of the cerebellar cortex and project to the magnocerebellar red nucleus and primary motor cortex via the thalamus.

### **The spinocerebellum modulates the descending motor systems in the brain stem and cerebral cortex:**

Purkinje neurons in the spinocerebellum project somatotopically to different deep nuclei that control various components of the descending motor pathways. Neurons in the vermis in both the anterior and posterior lobes send projections to the fastigial nucleus, which in turn projects bilaterally to the brain stem reticular formation and lateral vestibular nuclei. The latter areas project directly to the spinal cord. Axons of the fastigial nucleus also cross to the contra lateral side and project to the areas primary motor cortex controlling proximal muscles via a synapse in the ventrolateral nucleus of the thalamus. Thus the medial region of the cerebellum controls mainly the cortical and brain stem components of the medial descending systems. This control affects primarily the head and neck and proximal parts of the limb, rather than the wrist and digits. It is therefore important for movements of the face, mouth, and neck and for balance and postural control during voluntary motor tasks.

Purkinje neurons in the intermediate part of the cerebellar hemisphere project to the interposed nucleus. Some axons of this nucleus exit through the superior cerebellar peduncle and cross to the contra lateral side to terminate in the magnocellular portion of the red nucleus, whose axon cross back and descend to the spinal cord. Other axons from the interposed nucleus continue rostrally and terminate in the ventrolateral nucleus of the thalamus. This cerebellar receiving area (in ventral lateral thalamus) is located posterior to the area that receives input from the basal ganglia (the ventral anterior nuclei) and anterior to the area receiving from the lemniscal sensory system (ventral posterior lateral nucleus).

These thalamic neurons project to the limb control areas of the primary motor cortex. By acting on the neurons that give rise to the rubrospinal and corticospinal systems, the intermediate cerebellum focuses its action on limb muscle and axial musculature. Because the axons of the interposed nucleus cross to the contralateral side and the rubrospinal and corticospinal tracts cross back, cerebellar lesions can disrupt movements of ipsilateral limbs.

### **The spinocerebellum uses feed forward mechanisms to regulate movements:**

Because deep nuclear neurons are tonically active and produce powerful excitatory postsynaptic potentials in their target neurons, damage to the interposed nucleus reduces the activity of rubrospinal and corticospinal neurons through disfacilitation. This in turn reduces the excitability of motor neurons themselves and results in a reduction in muscle tone (cerebellar hypotonia). Experimental lesions of the interposed nucleus also disrupt the accuracy of reaching movements because of increased errors in timing the components of movements and systemic errors in direction and extent, a clinical sign called *dysmetria* (abnormal measurement). Joint motions are poorly coordinated or *ataxic* (loss of order) so that the path of the hand in reaching is curved rather than straight. Attempts by patients to correct such movements are associated with new errors, and the hand oscillates irregularly around the target, with a characteristic *terminal tremor*. Another deficit is seen in stretch reflexes: Although tendon reflexes may be strong, the limb tends to oscillate as it returns to its initial position (*pendular reflexes*).

When a normal person is attempting to keep their arm in a fixed position, the application of a transient force to extend the elbow evokes a short latency stretch reflex in the biceps; the arm then returns rapidly and precisely to its initial position. The precision of the return movement depends on the contraction of the extensor triceps muscle, which prevents the elbow from overshooting. Activation of the triceps muscle occurs shortly after that of the biceps. At this point the perturbation still extends the elbow and shortens the triceps. This extensor contraction is therefore an anticipatory or *feed-forward* response rather than a stretch reflex.

When the dentate and interposed nuclei are inactivated by cooling, the elbows show a pronounced oscillation after the perturbation instead of returning precisely to its initial position. The triceps is no longer activated during the initial shortening phase. But only after it has been stretched, when the flexion produced by the biceps contraction overshoots its mark. This delayed contraction of the triceps represents a *feedback* contraction to excessive flexion rather than an anticipatory response. Moreover, active triceps force is now superimposed with elastic recoil of the limb and extends the limb excessively, evoking a new flexor response in the biceps and triggering another cycle of flexion-extension. The same mechanism accounts for the

oscillations in the pendular knee jerks observed in humans who have cerebellar diseases.

Rapid single joint movements are initially accelerated by the contraction of an agonist muscle and decelerated by an appropriately timed contraction of the antagonist. When the dentate and interposed nuclei are inactivated by cooling, contraction of the antagonist muscle is delayed until the limb has overshoot the target. The anticipatory muscle contraction has been replaced by a feedback correction. This correction is itself dysmetric and results in another error, necessitating a new adjustment. Thus both the oscillatory response to an external perturbation and the terminal tremor at the end of a voluntary reaching movement result from defective anticipatory control of limb motion.

The failure to decelerate the limb at the correct time reflects defective adaptation of motor commands to the aim of the movement. Specifically, the sequence of muscle commands is not matched correctly to the inertial and viscoelastic properties of the limb. Multi joint movements of a limb are more complicated than single joint movements because motions at several joints of the limb produce interaction torques that vary much time at each joint. Anticipatory force and continuously recalibrate the internal representation of our limbs. This ability, however, depends a cerebellar processing of proprioceptive information from the limb. The inherent difficulty in controlling the inertial interactions among the multiple segments of a limb accounts for the greater inaccuracy of multi joint movements in cerebellar ataxia.

### **THE CEREBELLUM IS INVOLVED IN PLANNING MOVEMENT AND EVALUATING SENSORY INFORMATION FOR ACTION:**

The cerebellum, the lateral hemispheres were primarily concerned with motor function. However, recent studies of patients with lesions of the lateral hemisphere and experiments using functional brain imaging indicate that the lateral hemispheres, or cerebrocerebellum, also have a variety of perceptual and cognitive functions. In addition, the lateral hemispheres are much larger in humans than in monkeys, consistent with a role in higher cognitive functions.

### **The cerebrocerebellum regulates cortical motor programs:**

In contrast to other regions of the cerebellum, which receive sensory information more directly, the lateral hemispheres receive input exclusively from the cerebral cortex. Cortical input originates mainly in the pontine nuclei and projects through the middle cerebellar peduncle to the contralateral dentate nucleus and terminate as mossy fibers in the lateral cerebellar cortex.

Purkinje neurons in the lateral cerebellar cortex project to the dentate nucleus. Most dentate axons exit the cerebellum via the superior cerebellar peduncle and have two main terminators. One termination is in the contralateral ventrolateral thalamus, in the same area receiving input from the interposed nucleus. These thalamic cells project to premotor and primary motor areas of the cerebral cortex. The second main termination of the dentate neurons is in the contralateral parvocellular red nucleus, a portion of the red nucleus that is distinct from the part receiving input from the interposed nucleus. These neurons project to the inferior olivary nucleus, which in turn projects back to the contralateral cerebellum in the climbing fibers, thus forming a feedback loop. In addition to receiving input from the dentate nucleus, parvocellular neurons also receive input from the lateral premotor areas. The intriguing suggestion has been made, based on brain imaging, that this premotor-cerebello-rubro-cerebellar loop is involved in the mental rehearsal of movements and perhaps with motor learning.

### **Lesions of the cerebrocerebellum disrupt motor planning and prolong reaction time:**

Many motor acts are made up of multiple components, each of which is initiated before the preceding one is completed. An example is *prehension*, in which the shaping of the hand to the object to be grasped begins during the transport phase. During each component of movement the motions at each joint are coordinated precisely one with another. Lateral cerebellar lesions disrupt the timing of the various components, which appear to take sequentially rather than being coordinated smoothly, a defect known as *Decomposition of movement*. In humans and primates lesions of the dentate nucleus in particular impair the coordination of distal and proximal components of prehensile movements and the independent use of the digits in manipulator tasks.

These increase in reaction time and abnormalities in hand paths suggest that the cerebrocerebellum has a role in the planning and programming of hand movements. The activity patterns of single dentate neurons in primates support this idea. Recordings from primates show that dentate nucleus neurons fire 100 ms before a movement begins. The firing occurs before the discharge of neurons in either the primary motor cortex and interposed nuclei, which are more directly concerned with the execution of movement itself. Inactivation of the early output from the dentate nucleus delayed the onset of firing in the primary motor cortex, which delayed the onset of movement. Because movement was eventually initiated, the dentate nucleus is not absolutely necessary for initiation.

### **The cerebellum also has purely cognitive functions:**

When the patients with cerebellar lesions attempt to make regular tapping movements with their hands or fingers, the rhythm is irregular and the motions are variable in duration and force. The medial cerebellar lesion interfered only with accurate execution of the response, whereas lateral cerebellar lesion interfered with the timing of several events. This timing defect was limited to motor events. It also affected the patient's ability to judge elapsed time in purely mental or cognitive tasks, as in the ability to distinguish whether one tone was longer or shorter than another or whether the speed of one moving object was greater or less than another.

As expected, cerebral cortical areas known to be involved in the control of mouth movements were more active when subjects read words aloud when they read silently. Brain activity during the generation of language was assessed using the verb association task in which subjects had to identify the actions corresponding to certain nouns (eg, a subject might respond with "bark" if he saw the word "dog"). Compared with the brain activity associated with reading aloud, verb generation produced an expected increase in activity in the left frontal lobe, corresponding to Broca's area, as well as a pronounced increase within the right lateral cerebellum. Further support of the conclusion that the cerebellum has cognitive functions independent of motor functions comes from the observation that a patient damaged in the right cerebellum (blocked posterior inferior cerebellar artery) could not learn word association task.

## **THE CEREBELLUM PARTICIPATES IN MOTOR LEARNING:**

On the basis of mathematical modelling of cerebellar function, that cerebellar cortical circuits might be used in learning motor skills. Specifically, the climbing fibers input to Purkinje neurons modifies the response of the neurons to mossy fibers inputs and does so for a prolonged period of time. The climbing fibers weaken the parallel fiber-Purkinje cells synapse in a process called long-term depression.

Altering the strength of certain parallel fiber –Purkinje cell synapse would select specific Purkinje cells to program or correct eye or limb movements. During a movement the climbing fibers would provide an error signal that would depress parallel fibers that are active concurrently and allow “correct” movements (with no error) to emerge. With successive movements the effects of parallel fiber input associated with a flawed central command would increasingly be suppressed and more appropriate pattern of activity would emerge over time.

Reflex motion of the head in one direction is sensed by the vestibular labyrinth, which initiates eye movements in the opposite direction in order to maintain the image in the same position on the retina. When the humans or experimental animals wear the prism glasses that reverse the left and right fields, the vestibulo-ocular reflex is initially maladaptive because the reflex accentuates the motion of the visual field on the retina rather than stabilizing it. After the glasses have been continuously for several days the direction of the reflex becomes progressively reduced and reverse direction. This adaptation can be blocked by lesions of the vestibulocerebellum, indicating that the cerebellum has an important role in mediating this form of learning. Control of limb movements also adapts when subject wear prism for an extended periods. Patient with a damaged cerebellar cortex or inferior olive (the source of climbing fibers to the cerebellar cortex) are severely impaired or unable to adapt at all.

The cerebellum’s contribution to motor adaptation may occur also in certain forms of associative learning. The lesions of the cerebellum disrupt the acquisition and retention of classically conditioned eye blink reflex. After many couplings of an air puff (the unconditioned stimulus) to a sound (the conditioned stimulus), the eye blinked to the sound alone.

## **CEREBELLAR HAVE DISTINCTIVE SYMPTOMS AND SIGNS:**

Disorders of the human cerebellum result in distinctive symptoms and signs, described by Babinski in 1899 and in the 1920s and 1930s by Holmes. The first category is hypotonia, a diminished resistance to passive limb displacements. Hypotonia is also thought to explain pendular reflexes. After a knee jerk produced by the tap of the reflex hammer, the legs normally comes to rest after the jerk. In patients who have cerebellar disease he leg may oscillate up to 6 to 8 times before coming to rest.

The second category of symptoms includes a variety of abnormalities in the execution of voluntary movements, collectively referred to as ataxia, or lack of coordination. Examples are a delayed in initiating response with the affected limb, errors in the rate and regularity of movements. This last deficit, discovered by Babinski, is most readily demonstrated when the patient attempts to perform rapid alternating movements, such as tapping one hand with other, alternating between the back and the palm of the hand. patient cannot sustain a regular rhythm nor produced on even amount of force, a sign referred to as *dysdiadochokinesia*. Patients also made errors in the relative timing of the components of complex multi joint movements (decomposition of movement) and frequently failed to brace proximal joints against the force generated by movement of more distal joints.

The third type of abnormality in movement due to cerebellar disease is a specific form of tremor during movement that is most marked at the end of a movement, when the patient attempt to stop movement by using antagonist muscles. Such *action* or *intention tremor* represents a serious of erroneous corrections in the range of movement due to the failure of adaptive control.

Site of damage in the cerebellum can be identified based on the knowledge of the somatotopic organization of the spinocerebellum. Lesions of the vermis and fastigial nuclei produce disturbances principally in the control of axial and trunk muscles during attempted antigravity posture. Thus, when standing or sitting, patients with the lesions spread their feet apart in an attempt to stabilize their balance. Because facial and vocal control is also localized in the vermis, lesions in this area may result in slurring and slowing of speech with a characteristic one-word-at-a-time quality known as *scanning speech*. Degeneration of the anterior lobe (the vermis and the



trunk and leg areas) is common in the thiamine deficiency seen in alcoholic or malnourished patients. These patients have ataxia and tremor of the legs and trunk in standing and walking but not of the arm or head.

Lesions of the intermediate cerebellum or interposed nuclei produce action tremor of the limbs. The disorder produced by the lesions of the lateral cerebellar hemispheres consists principally of delay in the initiating movement and decomposition of multi-joint-movements – patients cannot move all limb segments together in a coordinated fashion instead move one joint at a time. This deficit is seen even in movements of the distal joints; patients are unable to combine thumb and index flexion in a precise pinch.

Cases of recovery from atrophy of the cerebellum in childhood have been reported, and many of these patients had large focal lesions in the lateral cerebellar cortex. Lesions of the lateral hemisphere may produce cognitive deficits but little in the way of easily recognized motor abnormality. The misconception has therefore developed that deficit due to cerebral lesions sustained in youth are well compensated by the function of other parts of the nervous system. Deficits due to the lesions of the more medial “motor” parts of the cerebellum become permanent disabilities.

## CLINICAL EXAMINATION FOR CEREBELLAR ATAXIA

### **Scanning speech**

Causes enunciation of individual syllables: “the British parliament” becomes “the Brit-tish Par-la-ment.”

### **Nystagmus**

Fast phase toward side of cerebellar lesion.

### **Finger to nose & finger to finger test**

Ask patient to fully extend arm then touch nose or ask them to touch their nose then fully extend to touch your finger. You increase the difficulty of this test by adding resistance to the patient's movements or move your finger to different locations. Abnormality of this is called dysmetria.

### **Rapid alternating movements**

Ask patient to place one hand over the next and have them flip one hand back and forth as fast as possible (alternatively you can ask the patient to quickly tap their foot on the floor as fast as possible) if abnormal, this is called dysdiadochokinesia.

### **Rebound phenomenon (of Stewart & Holmes)**

Have the patient pull on your hand and when they do, slip your hand out of their grasp. Normally the antagonists muscles will contract and stop their arm from moving in the desired direction. A positive sign is seen in a spastic limb where the exaggerated "rebound" occurs with movement in the opposite direction. However in cerebellar disease this response is completely absent causing the limb to continue moving in the desired direction.

### **Heel to shin test**

Have patient run their heel down the contralateral shin (this is equivalent to the finger to nose test).

### **Hypotonia**

“Pendular” knee jerk, leg keeps swinging after knee jerk more than 4 times (4 or less is normal).

### **Gait**

Commonly wide based and staggering. They may fall to the side of the lesion

## 9. METHODS AND MATERIALS

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### STUDY TYPE

Observational type of study

### STUDY DESIGN

A Randomized case control study, single centric study

### STUDY PLACE

Outpatient department and Inpatient department

National Institute of Siddha, Chennai-47

### SAMPLE SIZE

Patients - 20

Healthy Volunteers - 20

### SELECTION CRITERIA

#### INCLUSION CRITERIA - I

Age - 20 -70 years

#### INCLUSION CRITERIA - II

- Giddiness and unsteadiness while walking, standing and climbing up and down the stairs
- Laterally slipping while walking
- Weakness in the whole body
- Wide based gait

#### EXCLUSION CRITERIA

- Parkinsonism
- Stroke
- Alcoholism
- Hypothyroidism
- Multiple sclerosis

(Patients who fulfill INCLUSION CRITERIA I and any of the 3 INCLUSION CRITERIA II will be included in this study)

## INVESTIGATIONS

### BLOOD

- TC
- DC
- ESR
- Hb
- FBS
- PPBS
- S. Cholesterol

### URINE

- Albumin
- Sugar
- Deposits

### EIGHT FOLD EXAMINATION

- Naadi
- Sparisam
- Naa
- Niram
- Mozhi
- Vizhi
- Malam
- Moothiram

## **MANIKADAINOOL**

## **YAKKAI ILAKKANAM**

### **RADIOLOGICAL INVESTIGATION (IF NEEDED)**

- CT or MRI Brain

### **DATA COLLECTION**

- Case record form

### **DATA MANAGEMENT**

After enrolling the patient in the study, a separate file for each patient will be opened and all forms will be filled in the file. Study no, and Patient no will be entered on the top of the file for easy identification and arranged in separate rack at the concerned OPD unit. Whenever study patient visits OPD during the study period, the respective patient file will be taken and necessary recordings will be made at the case recording form or other suitable form.

The data recordings will be monitored for complication and compliance of patient by HOD and Sr. Research Officer (Statistics). All forms will be further scrutinized in presence of investigators by Sr. Research Officer (Statistics) for logical errors and incompleteness of the data before entering on the computer to avoid any bias. No modification in the results is permitted for unbiased report.

Any missed data found in during the study, it will be collected from the patient, but the time related data will not be record retrospectively. All collected data will be entered using MS access software onto computer. Investigators will be trained into enter the patient data and cross checked by SRO.

## **ETHICS ISSUES**

- Patients will be examined and screened in an unbiased manner and will be subjected to the criteria.
- Informed consent will be obtained from the patient in writing, explaining in the understandable language to the patient.
- The data collected from the patient will be kept confidential. The study patient will be explained about the diagnosis.
- To prevent any infection, while collecting blood sample from the patient, only disposable syringes, disposable gloves, with proper sterilization of lab equipments will be used.
- This study involves only the necessary investigations (mentioned in the protocol) and No other investigation would be done.
- Normal treatment procedure followed in NIS will be prescribed to the study patients and the treatment will be provided free of cost.
- There will be no infringement on the rights of patient.

## 10. LINE OF TREATMENT AND DIETARY REGIMEN

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### Line of Treatment:

"வைத்தியச் செயல் வைத்தியமாமே  
பலவாறு மாறுதலடைந்து கெடுக்கின்ற உடலை நிலைக்கும்  
மாறுதல் அணுகாணும் ஓரே தன்மையாக  
செய்தும் அதனாலாஞ் செயிலக் குறைவின்றி  
நடக்க செய்வ தெதுவோ அதுவே வைத்தியம்"

- திருமூலர் - 800

The aim of the treatment in Siddha system is not only to removal of physical illness but also for the mental illness and preventing as well as improving the body condition. This is said as follows:

1. Kappu (Prevention)
2. Neekkam (Treatment)
3. Niraivu (Restoration)

While treating the disease, the following principles must be noted,

நோய்நாடி நோய்முதல் நாடிஅது தணிக்கும்  
வாய்நாடி வாய்ப்பச் செயல்  
உற்றா னளவும் பிணியளவுங் காலமுங்  
கற்றான் கருதிச் செயல்

- திருவள்ளுவர்

So it is essential to know the disease, the aetiological factor, the nature of the patient, and the severity of the illness.

முப்பிணி மருவி முறிவு கொள் குறிப்பை  
தப்பாதறியும் தன்மையும் வாதபித்த வையப்  
பிரிவையுமனைவதாம்  
ஏறி யிறங்கி இணைந்து கலந்து  
மாறி மாறி வருஞ்செய்கையாற் பிணி  
நேர்மையறிந்து நீட்டு மருந்தே  
சீரியதாமெனச் செப்புவர் சித்தரே

Since siddha system of medicine based on the Mukkutra theory, the treatment is mainly aimed to bring down the three dhosam to its equilibrium state and thereby restoring the physiological condition of various thadhu.

- Vitiating of Vatham is the prime factor for Vathakannagam
- Kazhichal maruthuvam (Purgation) corrects the vitiated Vatham

The following verses reveal the importance of Kazhichal maruthuvam

விரெசனத்தால் வாதம் தாழும்  
ஓதிகின்ற மலக்லட்டை யொழிய வைத்தால்  
உடலிலுள்ள வாதையெலா மொடுங்கிப் போம்  
அறிந்திடும் வாதம் அடங்கு மலத்தினில்

### **KAAPPU (PREVENTION)**

To prevent karma (idiopathic or hereditary disease) the siddha has advocated preventive measures to be taken into consideration even while arranging for material alliances the object of which is to be get healthy pregnancy to build a robust and healthy nation. The rules affecting healthy alliances have been elaborately described in the science of astrology. They married on the basis of physical, emotional, intellectual and social compatibility.

### **NEEKKAM (TREATMENT)**

The three uyir thathu which are responsible for organization, regularization and integration of the bodily structures and their physiological functions are always kept in a state of equilibrium by word, thought, deed, and food of the individual. The general aetiological factors for constitutional discomfort is said to be incompatible diet, mental and physical activities.

### **NIRAIVU (RESTORATION)**

The patients need good discussion and motivation and persuasion to accept the eventually of the Vathakannagam and prepare for a life style and that provides optimization of metabolic status. In suitable effective medicinal preparations have to be administered in the being of itself to neutralize the altered humours and manage as well as postponing the complications.



Siddhars aimed at bringing the three dosham in equilibrium in the treatment of the diseases. Towards this end we treat with herbs and mineral preparations are used, while treating Vathakannagam. Siddhars prescribed a minimum dosage initially and increased the dose gradually.

### **LINE OF MANAGEMENT FOR VATHAKANNAGAM**

- Normalization of altered humours by oil bath and purgation therapy
- Internal medicine
- External therapies (thokkanam and varmam)
- Yogasanam
- Dietary restrictions

### **BALANCING THE DOSHAM THROUGH HERBAL PREPARATION**

Any of the weakened dosham can be brought into balance in several ways. Medical preparation based on the Siddha principles on the six basic tastes and its properties are a highly valuable and plausible avenue.

AMUKKARA CHOORANAM – for the weakened three dosham only

#### **For weakened Vatham:**

One to two grams of the powder of Amukkara chooranam

+

One teaspoon of Gingely oil

Twice a day, before food or 2 1/2 hour after food, duration of medicine depending on the symptoms

### **BALANCING AN AGGRAVATED VATHAM**

Maha vatha chooranam, 1 teaspoon with warm water, at night for 3 consecutive nights of each month, for three months continuously.

## **INTERNAL MEDICINE**

- Noikkana chooranam, kudineer. Leghyam, parpam, chenduram
- Vatham has dry, cool, lightness, sharp, and movable properties. We should select the medicine to antagonize the properties Vatham like heat, viscosity, and weight containing medicine.

## **GENERAL MEDICINE**

### **INTERNAL MEDICINES**

- Elathy chooranam
- Parangi pattai chooranam
- Vatha ratchasan
- Vishnu chakkaram
- Karuppu Vishnu chakkaram
- Soolai kudaram
- Sangu parpam
- Silasathu parpam
- Kukkil parpam
- Aarumuga chenthooram
- Ayakandha chenthooram

### **EXTERNAL MEDICINE**

- Vatha kesari thylam
- Lagu vidamutti thylam
- Panda thylam
- Karpoorathi thylam
- Ulunthu thylam
- Arakku thylam

## **SPECIAL MEDICINES**

### **INTERNAL MEDICINES**

- Pancha sootha mazhugu
- Nava uppu mazhugu
- Nanthi mai
- Rasa mezhugu
- Sathi linga parpam
- Merugulli thylam
- Rasa chenthooram
- Gandhaga chenthooram
- Linga chenthooram
- Maha kamesura chooranam
- Pancha navaloga mezhugu
- Vaalai rasa mazhugu

### **EXTERNAL MEDICINE**

- Mayana thylam
- Erukku kiyazham
- Maha vaatha thylam

### **DIETARY REGIMEN**

Siddha system lays a great importance on the observation of rules regarding diet in everyday life because the Siddha system has rightly realized that the basic factor of the body is food. That is annamayakosam is the first among the five kosams constituting our physical and mental existence. To prevent the occurrence of the disease, elaborate inference regarding food item in our daily diet is given in the text book of Siddha.

“மருந்தென வேண்டாவாம் யாக்கைக்  
கருத்தியதற்றது போற்றி யுண்ணின்”

“தீயளவு அன்றி தெரியான் பெரிதுண்ணின்  
நோயளவு இன்றிப் படும்”

“மாறுபாடில்லாத வுண்டி மறுத்துண்ணின்  
ஊறுபாடி ல்லையு யிர்க்கு”

- திருக்குறள்

Generally when a medicine is administrated Siddha physician prescribes diet regimen according to the nature of the medicine and severity of the diseases. As over intake or consuming unbalanced and incompatible diet is considered to be the prime causative factor for upsetting the tridosha balance leading to the manifestetions of various aliments.

### **PATHIYAM (DIET RESTRICTION)**

Patients were advised to follow certain special dietary methods called “Pathiyam”. The importance of diet restriction is clearly mentioned by Sage Yugi as follows,

பத்தியத்தினாலே பலனுண்டாகும் மருந்து

பத்தியங்கள் போனால் பலன் போகும் - பத்தியத்தில்

பத்தியமே வெற்றிதரும் பண்டிதருக்காதலினாற்

பத்தியமே உத்தியென்று பார்

-யுகி வைத்திய சிந்தாமணி 800

புளிதுவர் விஞ்சங் கறியார் பூரிக்கும் வாதம்

-பதார்த்த குண சிந்தாமணி

Sour and Astringent tasted food products induce the Vatham for that baseline.

### **VATHAM DIET**

#### **ADDED FOODS**

Old stocked boiled rice, wheat, ghee, honey, milk, moong doll, moringa, snake gourd, pomegranate, tender brinjal, kollu, cumin seeds, perungayam, garlic, Onion, pepper for neutralize the Vatham.

If Vatham join with Kabam, we should take leucas aspera leaves, eclipta leaves along with above regimens. Thoor dall is best for Vatham disease.

Tender vegetables	Katthari ( <i>Solanum melongema</i> ), avarai ( <i>Dolichos lablab</i> ), atthi ( <i>Ficus racemosa</i> ), murungai ( <i>Moringa oleifera</i> ), karunai kizhangu ( <i>Colocasia antiquorum</i> ), sundai ( <i>Solanum torvum</i> ), mullangi ( <i>Rhaphanus Sativus</i> ), paahal ( <i>Memordica charantia</i> ), sambal poosani ( <i>Benincasa hispida</i> ), prandai ( <i>Cissus quadrangularis</i> )
Greens	Mudakkaruthan ( <i>Cardiospermum halicacabum</i> ), sirukeerai ( <i>amaranthus tricolor</i> ), thoothuvelai ( <i>Solanum trilobatum</i> ), mookkirattai ( <i>Boerhaavia diffusa</i> ), puliyaarai ( <i>Hibiscus cannabinus</i> ), ponnanganni ( <i>Alternanthera sessilis</i> ), manali ( <i>Gisekia pharanaceoides</i> )
Pulses	Thuvarai (Thoor dall)
Dairy product	Cow's butter milk
Animal products	Udumbu (Monitar lizard), kaadai ( <i>Gallus sonne ralti</i> ), kavuthaari (Indian petridge), velladu ( <i>Capra hircus</i> ), ayirai meen (Loach)

## AVOID FOOD

Vegetables	Plantain products ( <i>Musa paradisiacal</i> ), verkadalai ( <i>Arachis hypogea</i> ), surai, vellari, pudal, peerkku
Grains	Kaaramani ( <i>Vinga unguiculata</i> ), parrani ( <i>Pisum sativum</i> ), mochai (Lablab purpureus), ulundhu, kollu, and mustard
Tastes	Sour and astringent

## MANAGEMENT ASPECTS TO CONTROL THE VATHAKANNAGAM SEVERITY

- Take oil bath every 4 days once
- Take purgation every 4 months once

- Strictly avoid animal proteins like meat, egg and fish
- Take lot of green leafy vegetables, fruits and water
- Avoid high carbohydrate and fatty foods
- Do exercises daily to refresh the body
- Slightly reduce the sour food products

**MANAGEMENT AND GOALS:**

- Initially to reduce Weakness in the whole body
- Restore or preserve the movement by yoga
- Postpone or prevent the complication by pranayama for lung fibrosis, heart block

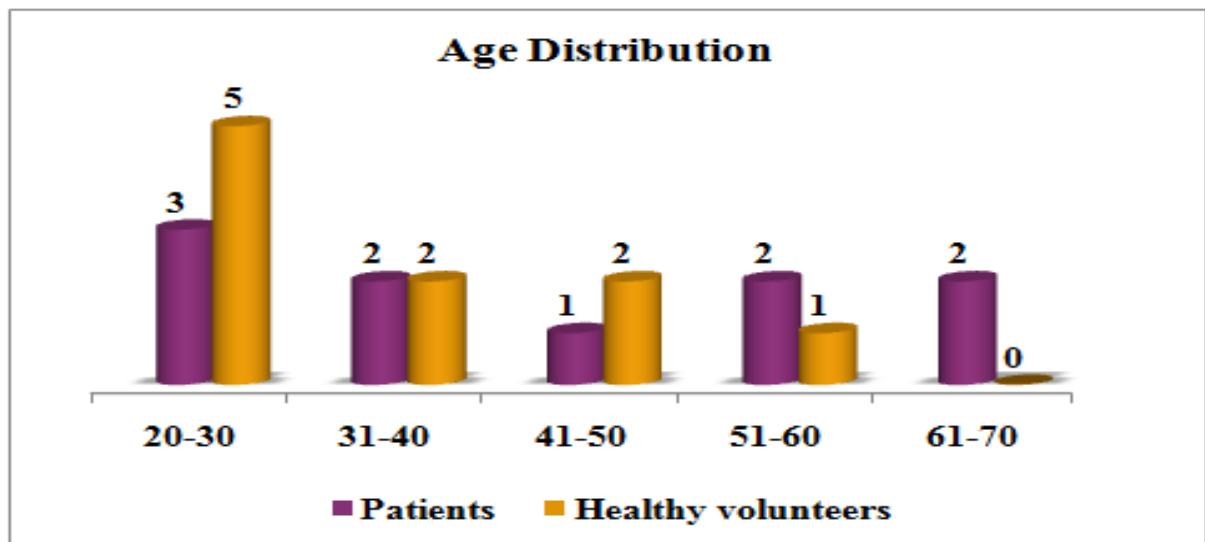
## 11.OBSERVATION AND RESULTS

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**Table: 1. AGE DISTRIBUTION**

S,NO	AGE	PATIENTS	HEALTHY VOLUNTEERS
1.	20-30	3	5
2.	31-40	2	2
3.	41-50	1	2
4.	51-60	2	1
5.	61-70	2	0

**Graph: 1. AGE DISTRIBUTION**



### OBSERVATION

Out of 10 cases, 3 cases (30%) fell under the group of 20-30 years of age, 2 cases (20%) fell under the group of 31-40 years of age, 1 case (10%) fell under the group of 41-50 years of age, 2 cases (20%) fell under the 51-60 years of age, and 2 cases (20%) fell under the group of 60-70 years of age.

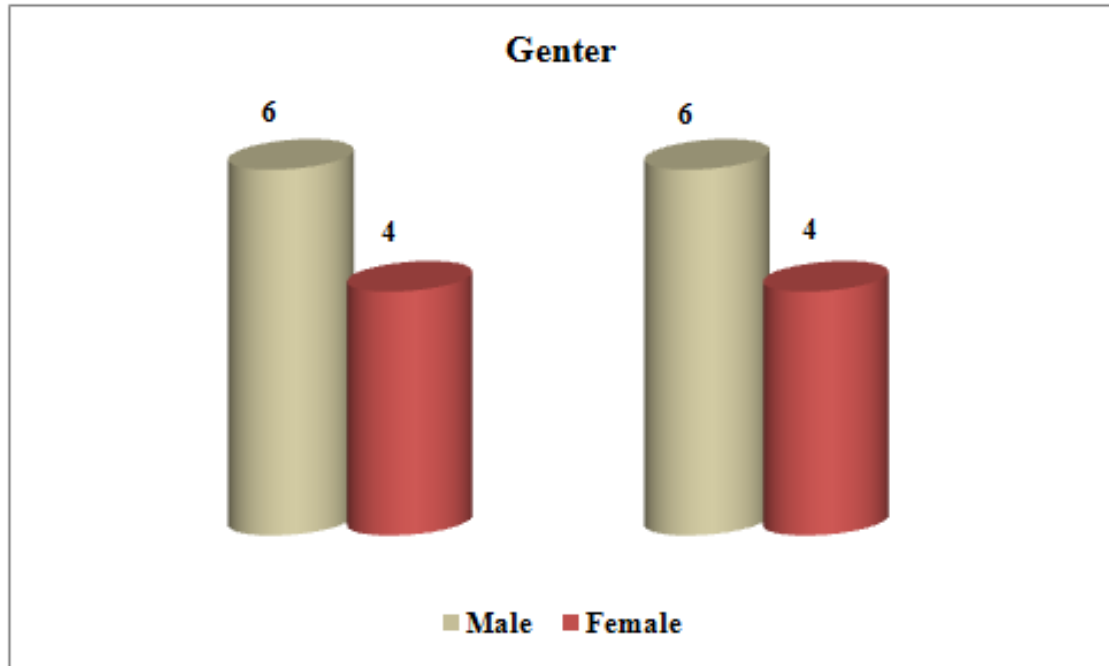
### INFERENCE

Most of the cases under the age group of 20-30, 31-40, 51-60 and 61-70. These results show at any age disease may onset.

**Table: 2. GENTER**

<b>GENDER</b>	<b>PATIENTS</b>	<b>HEALTHY VOLUNTEERS</b>
Male	6	6
Female	4	4

**Graph: 2. GENTER**



### **OBSERVATION**

Out of 10 cases, 6 cases (60%) of were males, 4 cases (40%) were females.

### **INFERENCE**

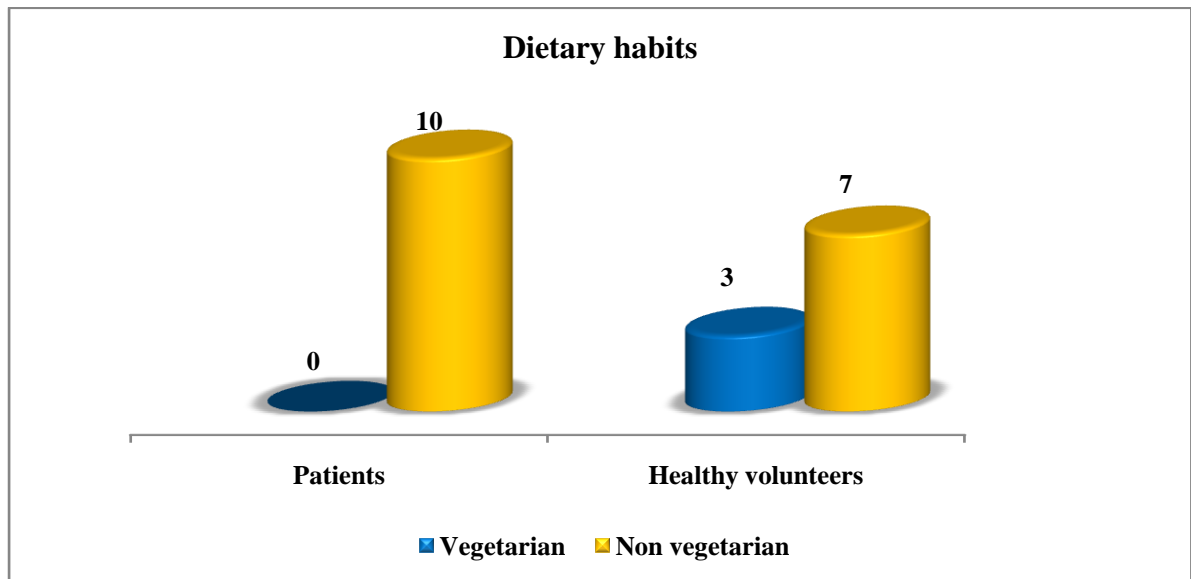
Most of the cases were males. This results shows males are very prone to Vathakanngam than females.



**Table: 3. DIETARY HABITS**

DIETARY HABITS	PATIENTS	HEALTHY VOLUNTEERS
Vegetarian	0	3
Non vegetarian	10	7

**Graph: 3. DIETARY HABITS**



### **OBSERVATION**

Out of 10 cases, all cases (100%) were non vegetarian.

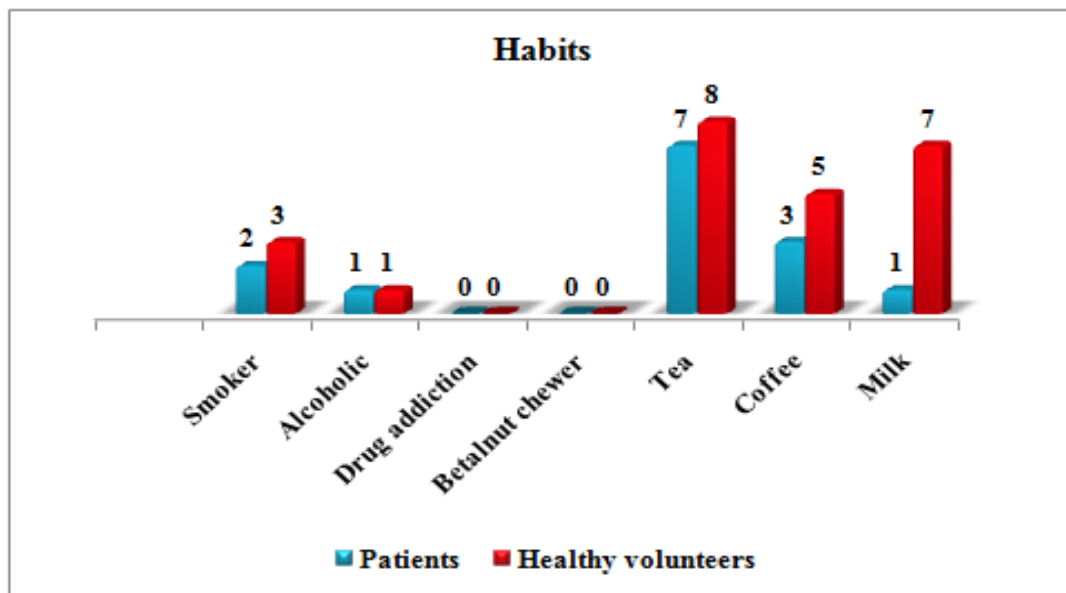
### **INFERENCE**

This observation showed non vegetarians were more prone to Vathakannagam than vegetarians.

**Table: 4. HABITS**

<b>HABITS</b>	<b>PATIENTS</b>	<b>HEALTHY VOLUNTEERS</b>
Smoker	2	3
Alcoholic	1	1
Drug addiction	0	0
Betalnut chewer	0	0
Tea	7	8
Coffee	3	5
Milk	1	7

**Graph: 4. HABITS**



### **OBSERVATION**

Out of 10 cases, 2 cases (20%) were smoker, 1 cases (10%) were alcoholic, 7 cases (70%) were addiction to tea, and 3 cases (30%) were addiction to coffee.

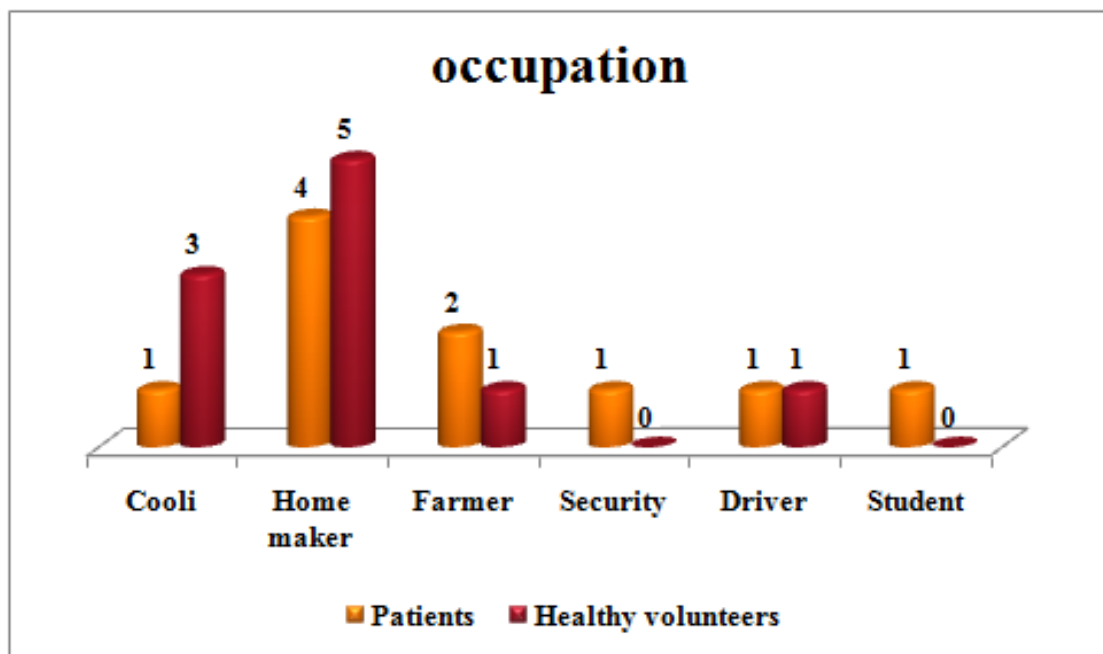
### **INFERENCE**

Irrespective of personal habits, the disease affected all groups such as smoker, alcoholic, non smoker and non alcoholic but higher incidence found in smoker and non smoker.

**Table: 5. OCCUPATION**

OCCUPATION	PATIENTS	HEALTHY VOLUNTEERS
Cooli	1	3
Home maker	4	5
Farmer	2	1
Security	1	0
Driver	1	1
Student	1	0

**Graph: 5 OCCUPATION**



### **OBSERVATION**

Out of 10 cases, 4 cases (40%) were home maker, 2 cases (20%) were former, 1 case (10%) were cooli, 1 case (10%) were security, 1 case (10%) were driver, and 1 case (10%) were student.

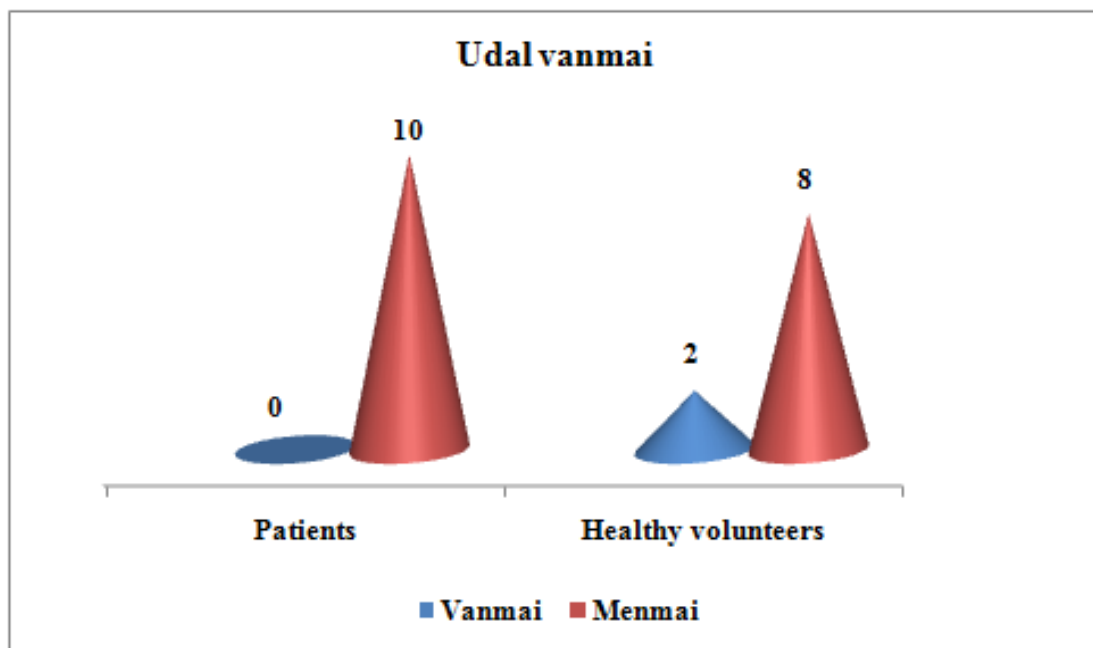
### **INFERENCE**

This observation showed home maker were more prone to Vathakannagam than others

**Table: 6. UDALVANMAI**

UDAL VANMAI	PATIENTS	HEALTHY VOLUNTEERS
Vanmai	0	2
Menmai	10	8

**Graph: 6. UDALVANMAI**



## **OBSERVATION**

Out of 10 cases, all cases (100%) were menmai.

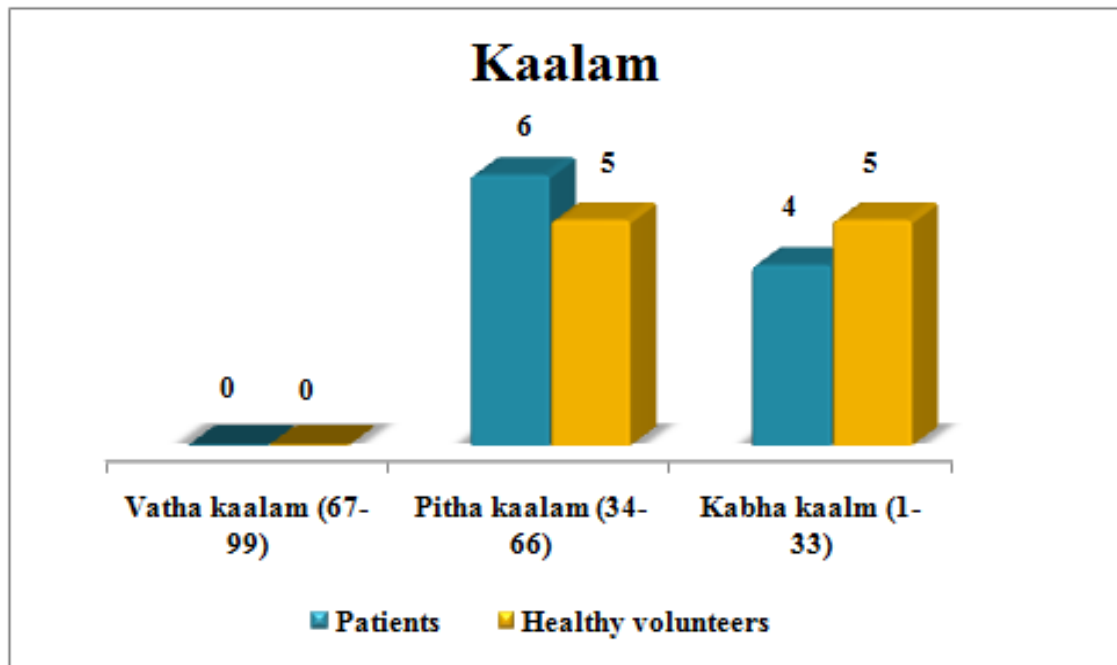
## **INFERENCE**

This observation results show Vathakannagam cases had menmai.

**Table: 7. KAALAM**

<b>KAALM</b>	<b>PATIENTS</b>	<b>HEALTHY VOLUNTEERS</b>
Vatha kaalam (67-99)	0	0
Pitha kaalam (34-66)	6	5
Kabha kaalm (1-33)	4	5

**Graph: 7. KAALAM**



### **OBSERVATION**

Out of 10 cases, 6 cases (60%) cases were observed in Pitha kaalam and 4 cases (40%) were observed in Kaba kaalam.

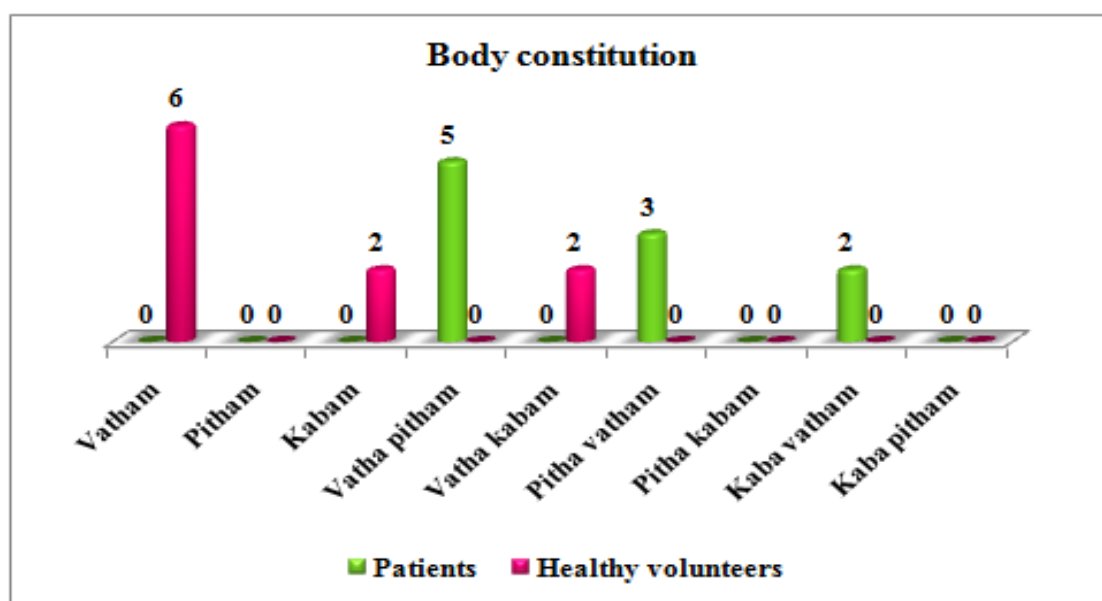
### **INFERENCE**

This observation results showed, Pitha kaalam is more to Vathakannagam disease than others.

**Table: 8. BODY CONSTITUTION**

BODY CONSTITUTION	PATIENTS	HEALTHY VOLUNTEERS
Vatham	0	6
Pitham	0	0
Kabam	0	2
Vatha pitham	5	0
Vatha kabam	0	2
Pitha vatham	3	0
Pitha kabam	0	0
Kaba vatham	2	0
Kaba pitham	0	0

**Graph: 8. BODY CONSTITUTION**



## OBSERVATION

Out of 10 caese, 5 cases (50%) were Vathapitham constitution, 3cases (30%) were Pithavatham constitution, and 2 cases (20%) were Kabavatham constitution.

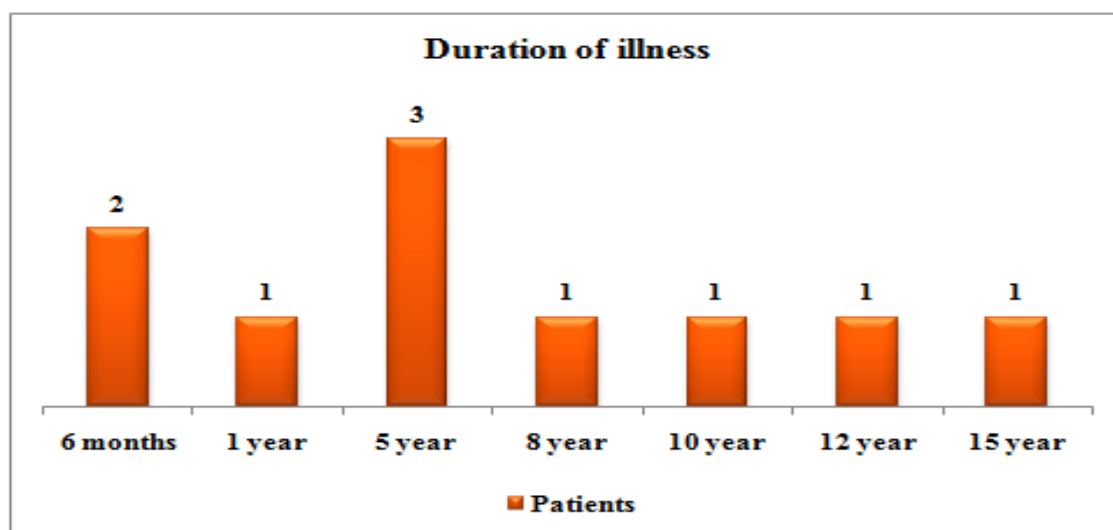
## INFERENCE

This observation results showed Vathapitham constitution is more prone to Vathakannagam disease.

**Table: 9. DURATION OF ILLNESS**

<b>DURATION OF ILLNESS</b>	<b>PATIENTS</b>
6 months	2
1 year	1
5 year	3
8 year	1
10 year	1
12 year	1
15 year	1

**Graph: 9. DURATION OF ILLNESS**



## **OBSERVATION**

Out of 10 cases, 3 cases (30%) had the disease for 5 years, 2 cases (20%) had the disease for 6 months, 1 cases (10%) had the disease for 15 years, 1 cases (10%) had the disease for 12 years, 1 cases (10%) had the disease for 10 years, 1 cases (10%) had the disease for 8 years, and 1 cases (10%) had the disease for 1 year.

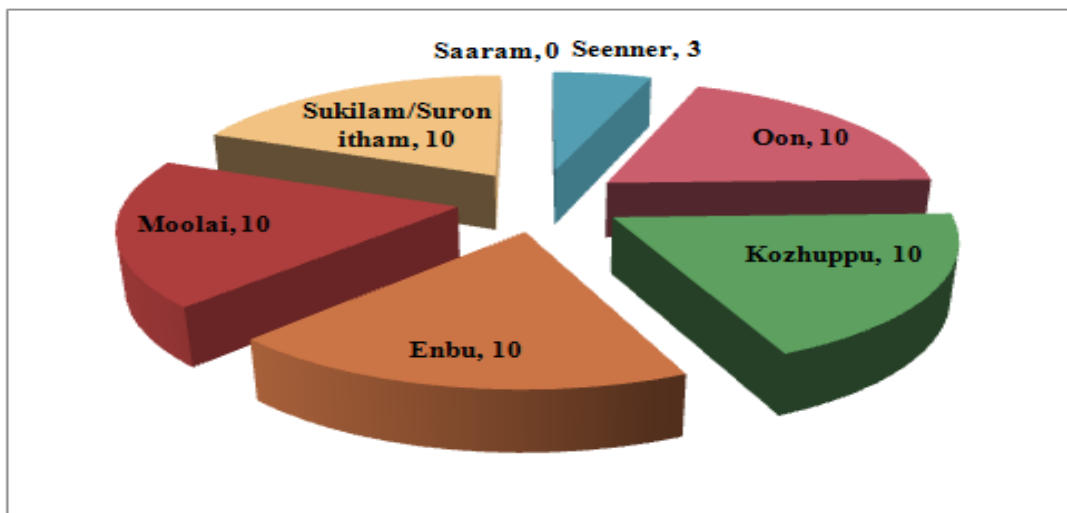
## **INFERENCE**

Majority of the cases suffering from this disease had duration of 5 years. Usually duration of Vathakannagam depends on its causes. If any causes for vathakanngam, it may take a long time to cure.

**Table: 10. UDAL THATHU**

UDAL THATHU	PATIENTS	PERCENTAGE
Saaram	0	0
Seenner	3	30%
Oon	10	100%
Kozhuppu	10	100%
Enbu	10	100%
Moolai	10	100%
Sukilam/Suronitham	10	100%

**Graph: 10. UDAL THATHU**



## **OBSEVATION**

Out of 10 cases, all the cases had derangement in oon, kozhuppu, enbu, moolai, and sukkilam or suronitham. 3 cases (30%) had derangement in seeneer.

## **INFERENCE**

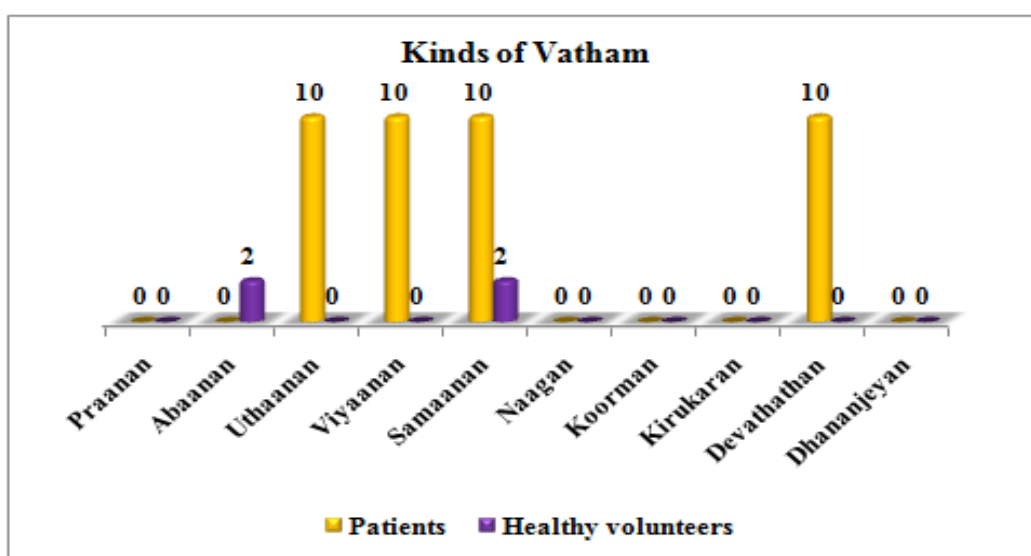
In this Study, all of the case (100%) had derangement in oon, followed by other thathu had derangement.



**Table: 11. DERANGED VATHAM**

<b>VATHAM</b>	<b>PATIENTS</b>	<b>HEALTHY VOLUNTEERS</b>
Praanan	0	0
Abaanan	0	2
Uthaanan	10	0
Viyaanan	10	0
Samaanan	10	2
Naagan	0	0
Koorman	0	0
Kirukaran	0	0
Devathathan	10	0
Dhananjeyan	0	0

**Graph: 11. DERANGED VATHAM**



## **OBSERVATION**

Out of 10 cases, all the cases had derangement in udhanan, viyanan, samanana, and devathathan.

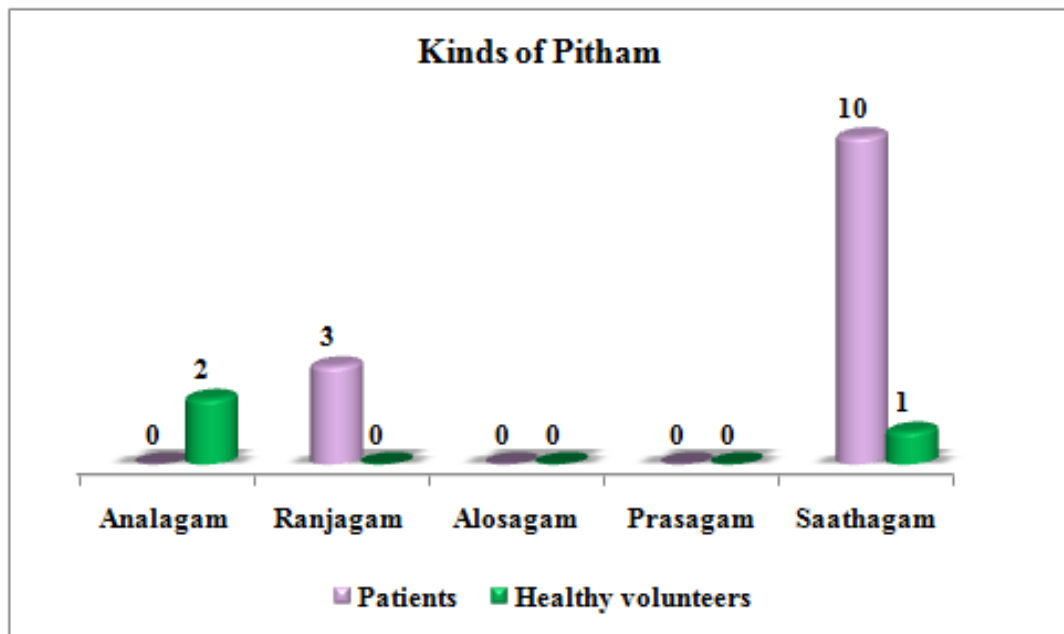
## **INFERENCE**

All the patients inducted in the study had Utthanana, Viyanana, Samanana, and Devathathan components of Vatham humour affected.

**Table: 12. DERANGED PITHAM**

PITHAM	PATIENTS	HEALTHY VOLUNTEERS
Analagam	0	2
Ranjagam	3	0
Alosagam	0	0
Prasagam	0	0
Saathagam	10	1

**Graph: 12. DERANGED PITHAM**



### **OBSERVATION**

Out of 10 cases, all the cases had derangement in Saathaga pitham, and 3 cases (30%) had deranged in Ranjaga pitham.

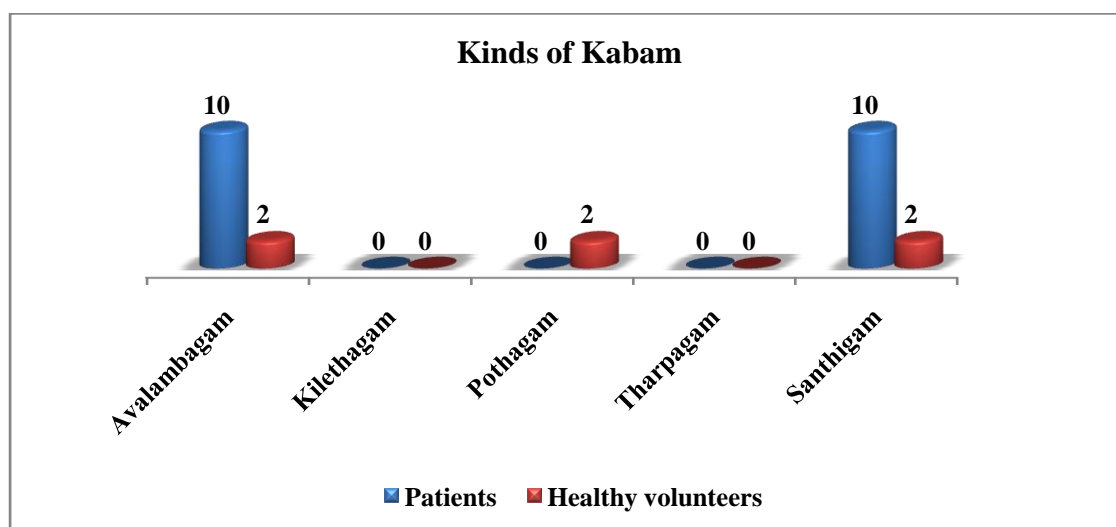
### **INFERENCE**

All the patients inducted in the study had Saathagam components of Pitham humour affected.

**Table: 13. DERANGED KABAM**

KABAM	PATIENTS	HEALTHY VOLUNTEERS
Avalambagam	10	2
Kilethagam	0	0
Pothagam	0	2
Tharpagam	0	0
Santhigam	10	2

**Graph: 13. DERANGED KABAM**



## **OBSERVATION**

Out of 10 cases, all the cases had derangement in Avalambagam and Sathigam.

## **INFERENCE**

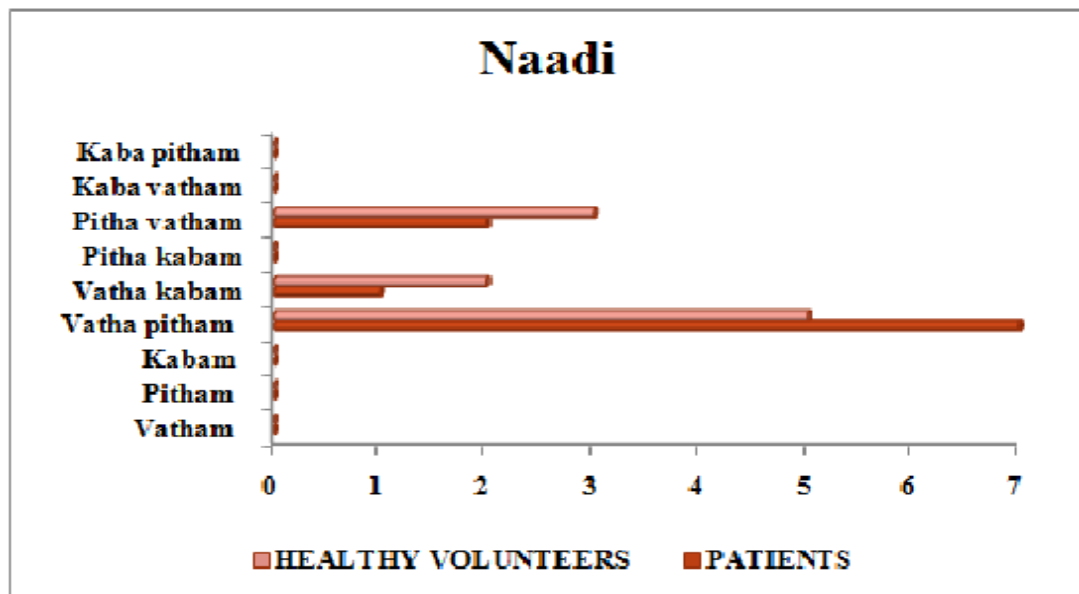
All the patients inducted in the study had Avalambagam and Sathigam components of Kabam humour affected.

## ENVAGAI THERVU

**Table:14. NAADI**

NAADI	PATIENTS	HEALTHY VOLUNTEERS
Vatham	0	0
Pitham	0	0
Kabam	0	0
Vatha pitham	7	5
Vatha kabam	1	2
Pitha kabam	0	0
Pitha vatham	2	3
Kaba vatham	0	0
Kaba pitham	0	0

**Graph: 14. NAADI**



### OBSERVATION

Out of 10 cases, 7 cases (70%) had the pulse of Vathapitham, 2 cases (20%) had the pulse of Pithavatham, and 1 case (10%) had the pulse of Vathakabam.

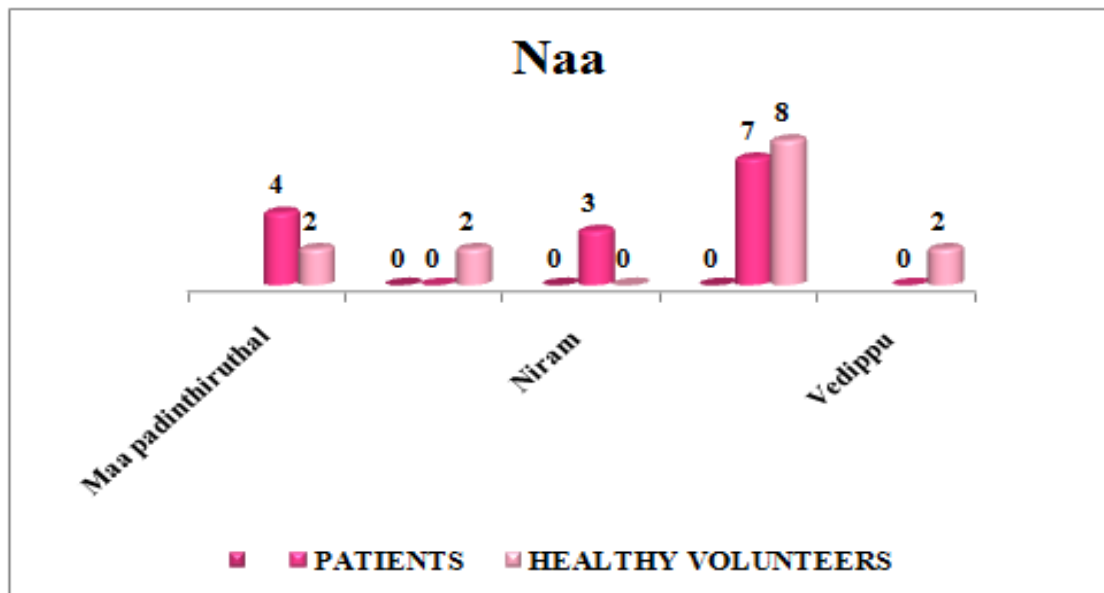
### INFERENCE

In this study, most of the patients had Vathapitha naadi in nature.

**Table:15. NAA**

NAA		PATIENTS	HEALTHY VOLUNTEERS
Maa padinthuruthal		4	2
Niram	Karuppu	0	2
	Veluppu	3	0
	Normal	7	8
Vedippu		0	2

**Graph: 15. NAA**



## **OBSERVATION**

Out of 10 cases, 4 cases (40%) had coated tongue, 7 cases (70%) had normal tongue, and 3 cases (30%) had pale tongue.

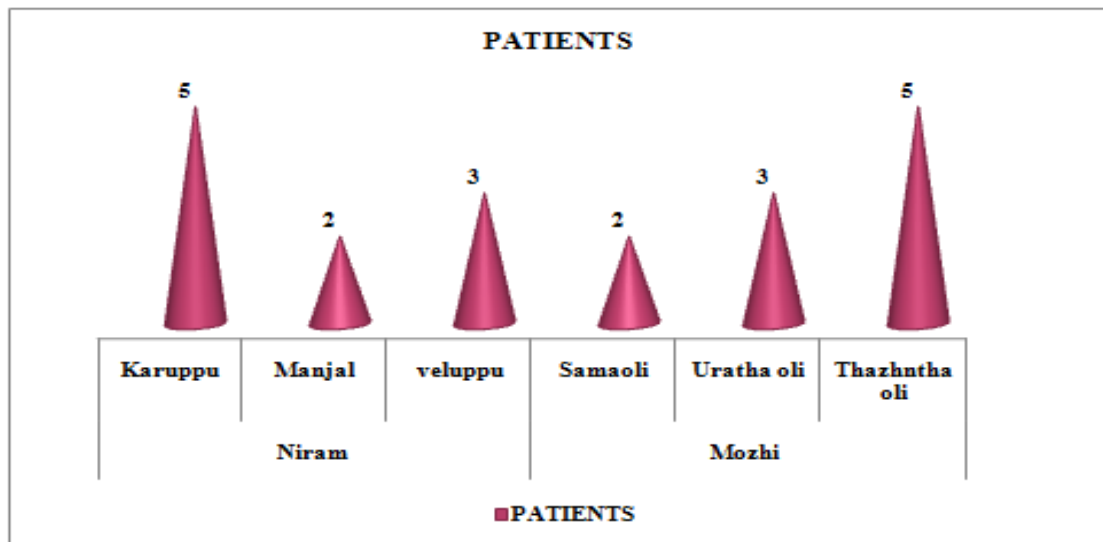
## **INFERENCE**

In this study majority of the cases (70%) had normal tongue, and 40% had coated tongue.

**Table: 16. NIRAM AND MOZHI**

NAME OF THE PARAMETERS	CHARACTER	PATIENTS	HEALTHY VOLUNTEERS
Niram	Karuppu	5	5
	Manjal	2	4
	veluppu	3	1
Mozhi	Samaoli	2	5
	Uratha oli	3	2
	Thazhntha oli	5	3

**Graph: 16. NIRAM AND MOZHI**



### **OBSERVATION**

Out of 10 cases, 5 cases (50%) were of dark complexion, 2 cases (20%) were of yellowish complexion, and 3 cases (30%) were of pale complexion. Out of 10 cases, 5 cases (50%) had low pitched voice, 3 cases (30%) had high pitched voice, and 5 cases (50%) had middle pitched voice.

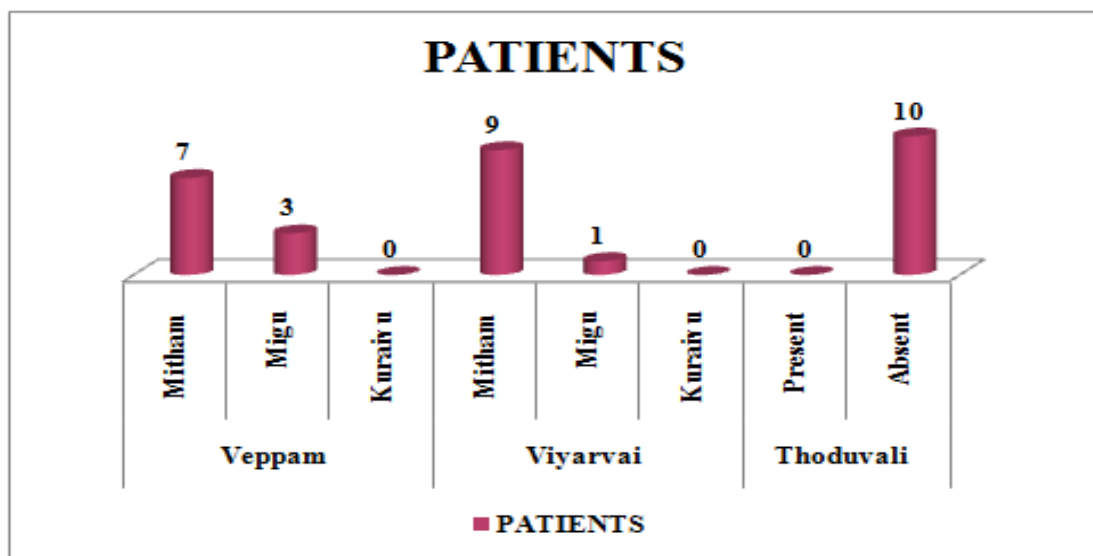
### **INFERENCE**

As most of the Indians are darkness in colour, 50% of the cases found to be darkish. No specific inference could be made out in this study from the examination of niram.

**Table: 17. MEIKURI**

NAME OF THE PARAMETERS	CHARACTER	PATIENTS	HEALTHY VOLUNTEERS
Veppam	Mitham	7	5
	Migu	3	2
	Kuraivu	0	3
Viyarvai	Mitham	9	10
	Migu	1	0
	Kuraivu	0	0
Thoduvali	Present	0	3
	Absent	10	7

**Graph: 17. MEIKURI**



### **OBSERVATION**

Out of 10 cases, 7 cases (70%) had mitha vappam in meikuri, and 3 cases (30%) had migu vappam in meikuri. In viyarvai, 9 cases (90%) had less sweating, and 1 case (10%) had excessive sweating. In thoduvali all the cases had no tenderness.

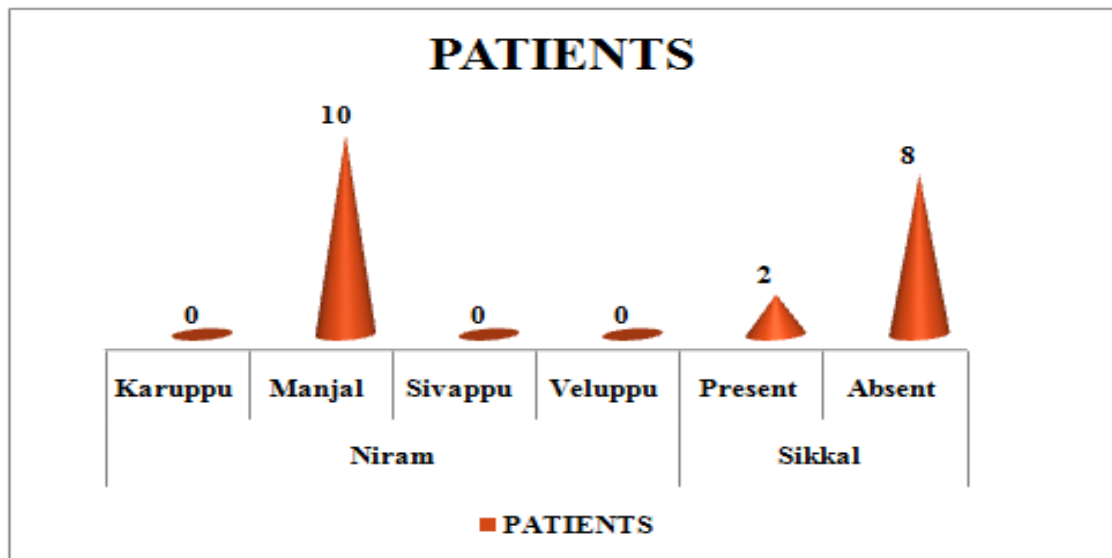
### **INFERENCE**

In this study most of the cases had mitha veppam (70%), less sweating (90%) and no tenderness (100%).

**Table: 18. MALAM**

NAME OF THE PARAMETERS	CHARACTER	PATIENTS	HEALTHY VOLUNTEERS
Niram	Karuppu	0	0
	Manjal	10	10
	Sivappu	0	0
	Veluppu	0	0
Sikkal	Present	2	0
	Absent	8	10

**Graph: 18. MALAM**



### **ONSERVATION**

Out of 10 cases, all the cases had yellowish colour in faeces and 2 cases (20%) had constipation.

### **INFERENCE**

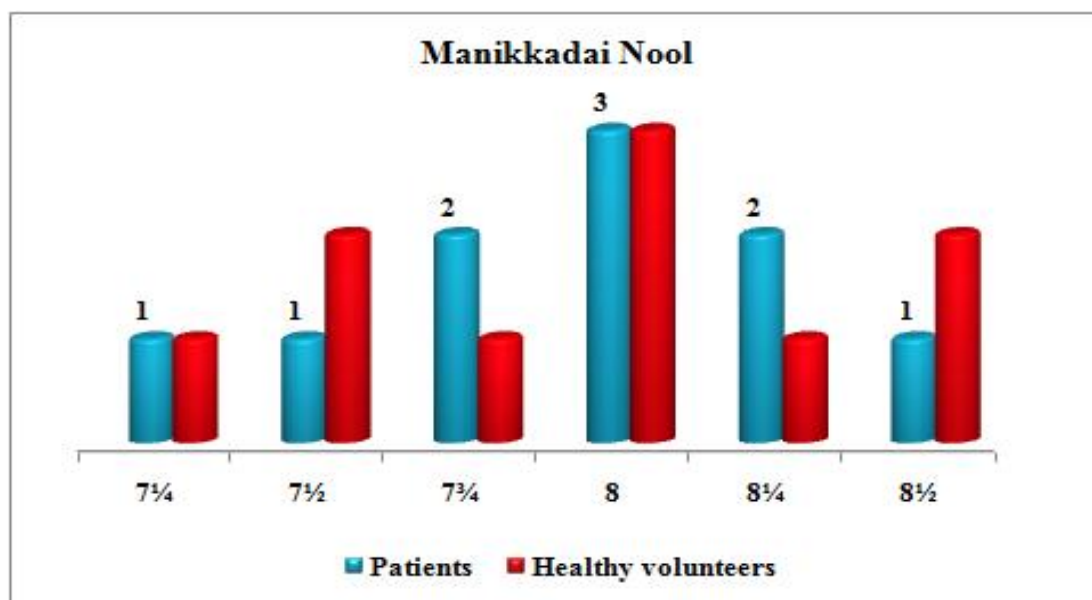
In this study, all the patients had normal colour in faeces, and 20% of cases had constipation



**Table - 19 MANIKADAI NOOL**

<b>NOOL ALAVU</b>	<b>PATIENTS</b>	<b>HEALTHY VOLUNTEERS</b>
$7\frac{1}{4}$	1	1
$7\frac{1}{2}$	1	2
$7\frac{3}{4}$	2	1
8	3	3
$8\frac{1}{4}$	2	1
$8\frac{1}{2}$	1	2

**Graph: 19 MANIKADAI NOOL**



## **ONSERVATION**

Out of 10 cases, 3 case (30%) had 8 viral kadaialavu,  $8\frac{1}{4}$  and  $7\frac{3}{4}$  viral kadaialavu in each 2 cases (20%), and  $7\frac{1}{4}$ ,  $7\frac{1}{2}$  and  $8\frac{1}{4}$  viral kadaialavu in each 1 cases (10%).

## **INFERENCE**

In manikkadai nool study, 30% of cases had 8 viral kadaialavu, 20% of cases had  $8\frac{1}{4}$  and  $7\frac{3}{4}$  viral kadaialavu, and 10% of cases had  $7\frac{1}{4}$ ,  $7\frac{1}{2}$  and  $8\frac{1}{4}$  viral kadaialavu

## 12. DISCUSSION

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The signs and symptoms of Vathakannagam which is mentioned in Sage Yugi Vaithiya Chindamani can be correlated with cerebellar diseases mainly cerebellar ataxia. In national institute of siddha –OPD, the author had screened 20 cases of cerebellar ataxia. Out of 20 cases, 10 patients having typical symptoms of Vathakannagam. From the population 10 cases of both sex were selected for the study. All the necessary investigations were carried to all the patients.

At the end of the study on Vathakannagam, the author discusses on significant factor about the disease with relevant justifications from the siddha and modern literature based on the observation and results.

The incidence of Vathakannagam with sex, age distribution, food habits, socio economical status, eight fold examination, manikkadai nool were also studied.

As per Yugi Vaithiya Chindamani given in the text listed out below one by one,

- Tripping, tottering and staggering in dizziness while climbing up or getting down or trying to step high off the ground
- General weakness in the whole body due to relaxing of the muscles
- Spreading wide the limbs as it were a wings of the bird

In this study, out of 10 cases of Vathakannagam 90% of the patient had all the above symptoms and 10% of the patient had all the above symptoms without the symptoms of spreading wide the limbs as it were a wings of the bird.

### **Distribution of cases with age**

Out of 10 cases, 3 cases (30%) fell under the group of 20-30 years of age, 2 cases (20%) fell under the group of 31-40 years of age, 1 case (10%) fell under the group of 41-50 years of age, 2 cases (20%) fell under the 51-60 years of age, and 2 cases (20%) fell under the group of 60-70 years of age.

Most of the cases under the age group of 20-30, 31-40, 51-60 and 61-70. These results show at any age disease may onset.

**Distribution of cases with gender**

Out of 10 cases, 6 cases (60%) of were males, 4 cases (40%) were females.

Most of the cases were males. This results shows males are very prone to Vathakanngam than females.

**Distribution of cases with dietary habits**

Out of 10 cases, all cases (100%) were non vegetarian.

This observation showed non vegetarians were more prone to Vathakannagam than vegetarians.

**Distribution of cases with habits**

Out of 10 cases, 2 cases (20%) were smoker, 1 case (10%) were alcoholic, 7 cases (70%) were addiction to tea, and 3 cases (30%) were addiction to coffee.

Irrespective of personal habits, the disease affected all groups such as smoker, alcoholic, non smoker and non alcoholic but higher incidence found in smoker and non smoker.

**Distribution of cases with occupation**

Out of 10 cases, 4 cases (40%) were home maker, 2 cases (20%) were former, 1 case (10%) were cooli, 1 case (10%) were security, 1 case (10%) were driver, and 1 case (10%) were student.

This observation showed home maker were more prone to Vathakannagam than others

**Distribution of cases with udal vanmai**

Out of 10 cases, all cases (100%) were menmai.

This observation results show Vathakannagam cases had menmai.

**Distribution of cases with kaalam**

Out of 10 cases, 6 cases (60%) cases were observed in Pitha kaalam and 4 cases (40%) were observed in Kaba kaalam.

This observation results showed, Pitha kaalam is more to Vathakannagam disease than others.

**Distribution of cases with body constitution**

Out of 10 caese, 5 cases (50%) were Vathapitham constitution, 3cases (30%) were Pithavatham constitution, and 2 cases (20%) were Kabavatham constitution.

This observation results showed Vathapitham constitution is more prone to Vathakannagam disease.

**Distribution of cases with duration**

Out of 10 cases, 3 cases (30%) had the disease for 5 years, 2 cases (20%) had the disease for 6 months, 1 cases (10%) had the disease for 15 years, 1 cases (10%) had the disease for 12 years, 1 cases (10%) had the disease for 10 years, 1 cases (10%) had the disease for 8 years, and 1 cases (10%) had the disease for 1 year.

Majority of the cases suffering from this disease had duration of 5 years. Usually duration of Vathakannagam depends on its causes. If any causes for vathakanngam, it may take a long time to cure.

**Distribution of cases with udal thathu**

Out of 10 cases, all the cases had derangement in oon, kozhuppu, enbu, moolai, and sukkilam or suronitham. 3 cases (30%) had derangement in seeneer.

Majority of the cases having deranged udal thathu is oon followed by other thathu also affected.

### **Distribution of cases with deranged vatham**

Out of 10 cases, all the cases had derangement in udhanan, viyanan, samanana, and devathathan.

All the patients inducted in the study had Utthanan, Viyanan, Samanan, and Devathathan components of Vatham humour affected.

### **Distribution of cases with deranged pitham**

Out of 10 cases, all the cases had derangement in Saathaga pitham, and 3 cases (30%) had deranged in Ranjaga pitham.

All the patients inducted in the study had Saathagam components of Pitham humour affected.

### **Distribution of cases with deranged kabam**

Out of 10 cases, all the cases had derangement in Avalambagam and Sathigam.

All the patients inducted in the study had Avalambagam and Sathigam components of Kabam humour affected.

### **Distribution of cases with naadi**

Out of 10 cases, 7 cases (70%) had the pulse of Vathapitham, 2 cases (20%) had the pulse of Pithavatham, and 1 case (10%) had the pulse of Vathakabam.

In this study, most of the patients had Vathapitha naadi in nature.

### **Distribution of cases with naa**

Out of 10 cases, 4 cases (40%) had coated tongue, 7 cases (70%) had normal tongue, and 3 cases (30%) had pale tongue.

In this study majority of the cases (70%) had normal tongue, and 40% had coated tongue.

### **Distribution of cases with niram and mozhi**

Out of 10 cases, 5 cases (50%) were of dark complexion, 2 cases (20%) were of yellowish complexion, and 3 cases (30%) were of pale complexion. Out of 10 cases, 5 cases (50%) had low pitched voice, 3 cases (30%) had high pitched voice, and 2 cases (20%) had middle pitched voice.

As most of the Indians are darkness in colour, 50% of the cases found to be darkish. No specific inference could be made out in this study from the examination of niram.

### **Distribution of cases with meikuri**

Out of 10 cases, 7 cases (70%) had mitha vappam in meikuri, and 3 cases (30%) had migu vappam in meikuri. In viyarvai, 9 cases (90%) had less sweating, and 1 case (10%) had excessive sweating. In thoduvali all the cases had no tenderness.

In this study most of the cases had mitha veppam (70%), less sweating (90%) and no tenderness (100%).

### **Distribution of cases with malam**

Out of 10 cases, all the cases had yellowish colour in faeces and 2 cases (20%) had constipation.

In this study, all the patients had normal colour in faeces, and 20% of cases had constipation

### **Distribution of cases with manikkadai nool**

Out of 10 cases, 3 case (30%) had 8 viral kadaialavu,  $8\frac{1}{4}$  and  $7\frac{3}{4}$  viral kadaialavu in each 2 cases (20%), and  $7\frac{1}{4}$ ,  $7\frac{1}{2}$  and  $8\frac{1}{4}$  viral kadaialavu in each 1 cases (10%).

In manikkadai nool study, 30% of cases had 8 viral kadaialavu, 20% of cases had  $8\frac{1}{4}$  and  $7\frac{3}{4}$  viral kadaialavu, and 10% of cases had  $7\frac{1}{4}$ ,  $7\frac{1}{2}$  and  $8\frac{1}{4}$  viral kadaialavu.

### **Neerkkuri interpittation**

Vathakanngam is one of the Vatha disease propounded by Sage Yugi. It is understood through the symptoms of the poem that it affects neuromusculo skeletal, which could be easily diagnosed by Eight fold examination. Neerkkuri and Neikkuri are couple of the special diagnostic and prognostic tools to investigate the altered humours in the disease Vathakannagam. Based on the Neerkkuri examination done in the study, pale yellow/yellow colour urine with clearance is the vathapitham Neerkkuri, which is the specific association that could be found out between the test results and diagnosis. There results were of more specific in character, whether the disease comes under the group of humour classification. So, study recommendation could be made from the results of the study to choose drugs which good correct the vitiation in the above humours.

### **Neikkuri interpittation**

Among the 10 cases, most of the cases with vathapitham neikkuri, where in which the oil initially starts with spreading speed followed by irregular borders upto bowl.

Neikkuri is the simple, non-invasive and cheaper method to detect the deranged humour in our body at presenting time. Selection of medicine is depends upon the deranged humours represented by neikuri gives best result or prognosis clinically. this is used for prognostic tool after the completion of medication in clinical practice. It is an Analytical tool to conclude that the disease whether it comes under the group of curable or non-curabel. So Keikkuri is one of the cost effective DIAGNOSTIC AND PROGNOSTIC TOOL in our system.

### 13.SUMMARY

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The author concludes the study on Vathakannagam with fruitful results validating the symptomatology and siddha diagnostic methodology. Study on Naadi threw up a narrow identifiable (Vathapithan) for Vathakannagam. So the presence of vathapitha naadi in Vathakannagam patients should be taken as a sign of altered vatha humour followed by altered pitham humour which might lead on this disease. If normal patients found with vathapitham naadi other than pitha kaalam, they should be taken as a pathological state and preventive measures should be adapted. Nearly more than 60% of the cases were observed results a clinician can diagnose this clinical entity as Vathakannagam with confidence.

Sedentary life style, mental stress and increased exposure to air are said to be an important factor initiating or aggravating the Vathakannagam, in this study also most of the patients had initial tripping, tottering and staggering in dizziness while climbing up or getting down or trying to step high off the ground, general weakness in the whole body due to relaxing of the muscles, and spreading wide the limbs as it were a wings of the bird. It can be concluded that with the genesis of Vathakannagam and subsequently the Vathakannagam could be the path of development of the disease. So along with medicines for improving the functional disabilities yogam and physical activities or exercises, they improve the weakness in the whole body.

Vaatham humour which is the root cause of this disease, it was found to be elevated which confirms the literary standpoint said by Sage Yugi. Therefore steps should be taken to keep it under check. Most of the patients had Vathapitham thega amaippu, it is an important factor precipitating this disease.

Study on Neerkuri in this study can be taken as one of the significant diagnostic tool for diagnosing this disease. With study on udal thathukkal, it was found that all cases (100%) had affected oon, kozhuppu, enbu, moolai, and sukkilam thathu , and 30% had affected with Senneer. So the medicines should be prescribed for strengthen these udal thathukkal.



Neerkuri and Neikkuri is one of the effective diagnostic and prognostic tool used in this study. Segregation of humours depending on clearance / pale yellow and yellow colour of urine in neerkuri and vathapitham neikkuri in structural changes. By corroborating the modern knowledge to this age-old method can be enhanced and new horizons can be explored. Neikkuri (Oil spreading sign) is based on the consistency, thickness, density of urine and by seeing the shape of spread oil drop on the urine surface. These changes in the properties of the urine as compared to normal occur due to release of various excretory substances in the urine in different disease conditions which can be assessed by the patterns formed by the oil drop during this neikkuri and thereby the diagnosis and prognosis can be assessed. According to our system, due to alternation of the bodys normal physiological functions during diseases and production of Vatham,Pitham, Kapham, the chemical composition of urine also changes which ultimately changes the pattern of oil drop spreading.

#### **14.Conclusion:**

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The patients with symptoms of Vathakannagam mentioned by Sage Yugi confirmed to majority of symptoms mentioned in the modern literature of Cerebellar ataxia. Thus the study validated the symptomatology elucidated by Sage Yugi and matched it with severity of the disease.

From this study, it is evident that, with Naadi, Manikadai nool, Neerkuri, Neikuri and udal thathukkal examination, this disease can be diagnosed easily and confidently. The author concludes that these diagnostic parameters can be successfully implemented by the physician at the clinical level in the diagnosis of Vathakannagam.

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**ANNEXURE - I**  
**DEPARTMENT OF NOI NAADAL**  
**NATIONAL INSTITUTE OF SIDDHA, CHENNAI – 47.**  
**A STUDY ON SYMPTOMATOLOGY AND DIAGNOSTIC**  
**METHODOLOGY OF VAATHAKANNAGAM**

**FORM I - SCREENING AND SELECTION PROFORMA**

1. O.P.No \_\_\_\_\_ 2. I.P No \_\_\_\_\_ 3. Bed No: \_\_\_\_\_ 4. S.No: \_\_\_\_\_

5. Name: \_\_\_\_\_ 6. Age (years):  7. Gender: M ☐ F ☐

8. Occupation: \_\_\_\_\_ 9. Income: \_\_\_\_\_

10. Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

11. Contact Nos: \_\_\_\_\_

12. E-mail : \_\_\_\_\_

13. Whether taken any other medication for the same disease previously YES ☐ NO ☐

If yes,  
Name of the medicines :

Duration :

If resorted to Siddha medicine for the treatment of  
**‘Vaathakannagam’** YES ☐ NO ☐

Reasons for resorting to Siddha medicine :

	YES	NO
(a) Cost effectiveness :	<input type="checkbox"/>	<input type="checkbox"/>
(b) No side effects in Siddha medicine :	<input type="checkbox"/>	<input type="checkbox"/>
(c) Dissatisfaction with the previous treatment :	<input type="checkbox"/>	<input type="checkbox"/>

### INCLUSION CRITERIA

	YES	NO
1. Age 20 - 70	<input type="checkbox"/>	<input type="checkbox"/>
2. Giddiness and In coordination during walking, standing and climbing up and down the stairs	<input type="checkbox"/>	<input type="checkbox"/>
3. Lateral slipping during walking	<input type="checkbox"/>	<input type="checkbox"/>
4. Weakness in whole body	<input type="checkbox"/>	<input type="checkbox"/>
5. Wide based gait	<input type="checkbox"/>	<input type="checkbox"/>

Patients who fulfill any 3 symptoms criteria in will be included in the study.

### EXCLUSION CRITERIA

	YES	NO
1. Paanikamba vatham (Parkinsonism)	<input type="checkbox"/>	<input type="checkbox"/>
2. Stroke	<input type="checkbox"/>	<input type="checkbox"/>
3. Kudiveri noi (Alcoholism)	<input type="checkbox"/>	<input type="checkbox"/>
4. Kuraiveethana noi (Hypothyroidism)	<input type="checkbox"/>	<input type="checkbox"/>
5. Multiple sclerosis	<input type="checkbox"/>	<input type="checkbox"/>

**Date:**

**P.G Scholar**

**Faculty**

**ANNEXURE – I A**  
**DEPARTMENT OF NOI NAADAL**  
**NATIONAL INSTITUTE OF SIDDHA, CHENNAI – 47.**  
**A STUDY ON SYMPTOMATOLOGY AND DIAGNOSTIC**  
**METHODOLOGY OF VAATHAKANNAGAM**

**FORM I A - HISTORY PROFORMA**

1. Sl.No of the case: \_\_\_\_\_

2. Name: \_\_\_\_\_ Height: \_\_\_\_\_ cms Weight: \_\_\_\_\_ Kg

3. Age (years): \_\_\_\_\_ DOB 

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D D M M Y E A R

4. Educational Status:

1) Illiterate ☐ 2) Literate ☐ 3) Student ☐ 4) Graduate/Postgraduate ☐

5. Nature of work:

1) Sedentary work ☐  
2) Field work with physical labour ☐  
3) Field work Executive ☐

6. Complaints and Duration:

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7. History of Present illness:

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8. History of Past illness:

	1. Yes	2. No
Systemic hypertension	<input type="checkbox"/>	<input type="checkbox"/>
Diabetes mellitus	<input type="checkbox"/>	<input type="checkbox"/>
Bronchial asthma	<input type="checkbox"/>	<input type="checkbox"/>
Tuberculosis	<input type="checkbox"/>	<input type="checkbox"/>
Jaundice	<input type="checkbox"/>	<input type="checkbox"/>
Ischemic heart disease	<input type="checkbox"/>	<input type="checkbox"/>
Any drug allergy	<input type="checkbox"/>	<input type="checkbox"/>
Any surgeries	<input type="checkbox"/>	<input type="checkbox"/>
Any major illnesses	<input type="checkbox"/>	<input type="checkbox"/>

9. Habits:

	1. Yes	2. No
Smoker	<input type="checkbox"/>	<input type="checkbox"/>
Alcoholic	<input type="checkbox"/>	<input type="checkbox"/>
Drug Addiction	<input type="checkbox"/>	<input type="checkbox"/>
Betel nut chewer	<input type="checkbox"/>	<input type="checkbox"/>
Tea	<input type="checkbox"/>	<input type="checkbox"/>
Coffee	<input type="checkbox"/>	<input type="checkbox"/>
Milk	<input type="checkbox"/>	<input type="checkbox"/>

DIET HISTORY

Type of diet	V <input type="checkbox"/>	NV <input type="checkbox"/>
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VEGETARIAN FOODS

	1. Yes	2. No
Sweets/Salt/Bitter/Sour/Astringent/Spicy -----		
Ice creams	<input type="checkbox"/>	<input type="checkbox"/>
Junk foods	<input type="checkbox"/>	<input type="checkbox"/>



## NON VEGETARIAN FOODS

Chicken/Fish/Crab/Mutton/Meat/Prawn -----

## DRINKS

Soft drinks

☐☐

### 10. Personal history:

Marital status:

Married

☐

Unmarried

☐

No. of children:

Male: \_\_\_\_\_ Female: \_\_\_\_\_

Socio economic status:

-----

### 11. Family history:

YES

NO

History of Vaathakannagam

☐☐

### Others:

Menstrual & Obstetric history:

-----

Age at menarche:

-----

Duration of the menstrual cycle:

-----

Flow:

-----

Colour:

-----

Nature:

-----

Constancy of cycle duration:

1.Regular

☐

2.Irregular

☐

Gravida

☐

Para

☐

Living

☐

Abortion

☐

Death

☐

## GENERAL ETIOLOGY FOR “VAATHAKANNAGAM”:

YES

NO

1. Trauma

☐☐

2. Alcoholism

☐☐

3. Cerebellar lesion

☐☐

4. Age

☐☐

## 8. CLINICAL SYMPTOMS OF “VAATHA KANNAAM”

	YES	NO
1. Giddiness and In coordination during walking, standing and climbing up and down the stairs	<input type="checkbox"/>	<input type="checkbox"/>
2. Lateral slipping during walking	<input type="checkbox"/>	<input type="checkbox"/>
3. Weakness in whole body	<input type="checkbox"/>	<input type="checkbox"/>
4. Wide based gait	<input type="checkbox"/>	<input type="checkbox"/>

**Date :**

**P.G Scholar**

**Faculty**

**ANNEXURE - II**  
**DEPARTMENT OF NOI NAADAL**  
**NATIONAL INSTITUTE OF SIDDHA, CHENNAI – 47.**  
**A STUDY ON SYMPTOMATOLOGY AND DIAGNOSTIC**  
**METHODOLOGY OF VAATHAKANNGAM**  
**FORM II - CLINICAL ASSESSMENT**

1. Serial No: \_\_\_\_\_

2. Name: \_\_\_\_\_

3. Date of birth: 

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D D M M Y E A R

4. Age: \_\_\_\_\_ years

5. Date: \_\_\_\_\_

**GENERAL EXAMINATION:**

1. Height: \_\_\_\_\_ cms. BMI \_\_\_\_\_ (Weight Kg/ Height m<sup>2</sup>)

2. Weight (kg):

3. Temperature (°F):

4. Pulse rate:

5. Heart rate:

6. Respiratory rate:

7. Blood pressure:

8. Pallor:

9. Jaundice:

10. Cyanosis:

11. Lymphadenopathy:

12. Pedal edema:

13. Clubbing:

14. Jugular vein pulsation

## EXAMINATION

1. Inspection
2. Palpation
3. Percussion
4. Auscultation

## VITAL ORGANS EXAMINATION

	1. Normal	2. Affected	
1. Heart	<input type="checkbox"/>	<input type="checkbox"/>	_____
2. Lungs	<input type="checkbox"/>	<input type="checkbox"/>	_____
3. Brain	<input type="checkbox"/>	<input type="checkbox"/>	_____
4. Liver	<input type="checkbox"/>	<input type="checkbox"/>	_____
5. Kidney	<input type="checkbox"/>	<input type="checkbox"/>	_____
6. Spleen	<input type="checkbox"/>	<input type="checkbox"/>	_____
7. Stomach	<input type="checkbox"/>	<input type="checkbox"/>	_____

## SYSTEMIC EXAMINATION:

1. Cardio Vascular System \_\_\_\_\_
2. Respiratory System \_\_\_\_\_
3. Gastrointestinal System \_\_\_\_\_
4. Central Nervous System \_\_\_\_\_
5. Urogenital System \_\_\_\_\_
6. Endocrine System \_\_\_\_\_

## SIDDHA SYSTEM OF EXAMINATION

### DETERMINATION OF PRAKRITI /UDALIYAL (Body Constitution)

<b>1. PHYSIOLOGICAL STATUS (PHS)</b>		
<b>1.01 Status of Appetite: (AD)</b>		
A.	Good appetite	
B.	Stable appetite with usually moderate desire to eat	
C.	Variable appetite	
<b>1.02 Dietary/Eating habits (DH)</b>		
A.	Enjoys eating, ready to eat mostly & hates to miss food	
B.	Regular food habits, but can spend hours without food	
C.	Desirous to take food, eats less at a time, needs mid-meals	
<b>1.03 Bowel Habits (BH)</b>		
A.	Regular, once-a-day, stool well formed, if constipated it is mild	
B.	(Respond to medium strength laxative)	
C.	Regular & frequent, stool semisolid or loose, rarely constipated.	
<b>1.04 Sleeping Pattern (SH)</b>		
A.	Sleeps easily but light	
B.	Sleeps easily and sound (heavily)	
C.	Trouble to get sleep, light sleep / Variable sleep pattern	
<b>1.05 Morning feelings, after leaving the bed (MF)</b>		
A.	Don't feel fresh	
B.	Feel fresh. Feel well even with less sleep.	
C.	Feel fresh but not good when less hours of sleep have.	
<b>1.06 Dreams (DM)</b>		
A.	Cool and peaceful dreams, not bothers to remember	
B.	Passionate dreams, sees heat, light & remembers well	
C.	Plenty of dreams, mostly related to motion, usually forgets	
<b>1.07 Physical working capacity/physical strength</b>		
A.	Starts with speed & gets exhausted easily	
B.	Loves hard work, has moderate capacity	
C.	Good stamina but slow and not interested for physical work	
<b>1.08 Performance of activities</b>		
A.	Quickly with a lot of initiative	
B.	Moderately with medium initiative	
C.	Slow, steady and balance activities	
<b>1.09 Talking</b>		
A.	Very fast missing words	
B.	Sharp, provocative and clear-cut	
C.	Slow, clear and stable	
<b>1.10 Walking</b>		
A.	Very quick with swift movement	
B.	Normal and rhythm	
C.	Slow and steady	
<b>1.11 Associated movements of body while working</b>		
A.	Excessive and frequent, difficult to tolerate	
B.	Less thirst, easy to tolerate	
C.	Moderate perspiration, consistent to climate, with pleasant	

	smell.	
<b>1.12 Nature of Thirst (TN)</b>		
A.	Excessive and frequent, difficult to tolerate	
B.	Less thirst, easy to tolerate	
C.	Moderate and variable thirst	
<b>1.13 Status of Perspiration (SP)</b>		
A.	Scanty even in hot climate but odourless	
B.	Profuse with strong odour	
C.	Moderate perspiration, consistent to climate, with pleasant smell.	
<b>1.14 Sexual qualities (SQ)</b>		
A.	Variable, strong desire, overindulgence, & gets exhausted	
B.	Moderate with dominating behavior	
C.	Usually low and steady desire, with good stamina	
<b>1.15 Quantity of seminal discharge</b>		
A.	Scanty and comparatively thin in consistency	
B.	Moderate and normal	
C.	Plenty and thick	
<b>1.16 Fertility or productivity</b>		
A.	Comparatively lesser	
B.	Less	
C.	Capable of producing good no. of off springs	
<b>1.17 Longevity or average age</b>		
A.	Short life span	
B.	Moderate life span	
C.	Long life span	
<b>1.18 Resistance to diseases (RD)</b>		
A.	Usually poor. Frequently fall ill.	
B.	Medium	
C.	Good. Able to tolerate seasonal variation, food etc. well	
<b>1.19 Climatic Preferences (CP)</b>		
A.	Prefers warm, avoids cold climate	
B.	Likes cold, but intolerant to warm/hot	
C.	Likes normal climate & prefers warm in comparison to cold	
<b>2. MENTAL/PSYCHOLOGICAL STATUS</b>		
<b>2.01 Mental Reactions (MR)/Personality Traits</b>		
A.	Very sensitive, reacts quickly	
B.	Gets Irritated easily & sustains it.	
C.	Cool, calm, avoids confrontations	
<b>2.02 Memory Status (MS)</b>		
A.	Remembers easily & tends to forget easily	
B.	Takes time to grasp, but retains for long	
C.	Remembers easily and tends to retain	
<b>2.03 Leadership quality (LQ)</b>		
A.	Don't like to lead and happy as a follower.	
B.	Requires commanding status.	
C.	Avoid leading.	
<b>2.04 Decision making capacity (DMC)</b>		
A.	Takes immediate decision without thinking much.	

B.	Takes decision after properly analyzing the facts.	
C.	Avoid taking decision. Usually keeps them pending.	
<b>2.05 Concentration Power (CP)</b>		
A.	Very easy to concentrate on a work, but not for long duration	
B.	Difficult to concentrate on a work	
C.	Retains concentration for a long period	
<b>2.06 Attitude towards problems or difficulties</b>		
A.	Lot of worrying, instability in reaction	
B.	Angry, over awed, easily provoked and highly irritable	
C.	Peaceful, slow, steady and balance	
<b>2.07 Nature</b>		
A.	Easily irritable, irritating to others, exaggerating, anxious materialistic liking	
B.	Polite but hot-tempered, proudly, brave, bold, less but good friendship	
C.	Polite, decent, not greedy, appreciating, have good and long lasting friendship	
<b>2.08 Liking about taste (TL)</b>		
A.	Sweet, salt & sour	
B.	Sweet, bitter & astringent	
C.	Pungent, astringent & bitter	
<b>3. PHYSICAL FEATURES: (PF)</b>		
<b>3.01 Body frame (BF)</b>		
A.	Thin body frame, unusually long/short	
B.	Medium frame	
C.	Broad, Large frame	
<b>3.02 Body weight (BW)</b>		
A.	Moderate/Average weight	
B.	Underweight or Tendency of fluctuation	
C.	Overweight or with a tendency to gain weight	
<b>3.03 Distribution of body fat (DBF)</b>		
A.	Unequal/on specific areas	
B.	Evenly distribution	
C.	Scanty deposition of body fat.	
<b>3.04 Nature/Texture of skin</b>		
A.	Delicate, Irritable skin, gets wrinkles easily	
B.	Dry, rough, cracked, or having a tendency of cracking	
C.	Smooth, firm, soft, clear with good lusture, not prone to disorders	
<b>3.05 Complexion/skin color (SC)</b>		
A.	Extremely fair / pinkish	
B.	Fair, reddish, burns easily	
C.	Comparatively dull or darkish, tans easily	
<b>3.06 Body Hair (BH)</b>		
A.	Dry, rough, coarse, lustureless & curly	
B.	Soft, scanty, straight, fine textured	
C.	Thick, shiny, moderate	
<b>3.07 Forehead (FH)</b>		
A.	Large	

<b>B.</b>	Medium	
<b>C.</b>	Small	
<b>3.08 Eyes (EF)</b>		
<b>A.</b>	Rolling, restless, small, dull & lusterless	
<b>B.</b>	Sharp, medium sized with sclera of reddish tinge	
<b>C.</b>	Large calm stable eyes with milky white sclera	
<b>3.09 Teeth (TE)</b>		
<b>A.</b>	Teeth are of average size, yellowish, prone to cavities	
<b>B.</b>	Dry, cracked, irregular dull white	
<b>C.</b>	Large, even, gleaming white	
<b>3.10 Tongue (TO)</b>		
<b>A.</b>	Thin tongue, with blackish spots, often coated with thin adherent coating	
<b>B.</b>	Medium, Reddish, occasionally coated with yellow or red coating	
<b>C.</b>	Thick usually clear, rarely coated, coating is usually thick white	
<b>3.11 Lips (LP)</b>		
<b>A.</b>	Soft, moist & reddish	
<b>B.</b>	Dry, thin & blackish	
<b>C.</b>	Thick & glossy	
<b>3.12 Blood Vessels (BV)</b>		
<b>A.</b>	Prominent	
<b>B.</b>	Less prominent	
<b>C.</b>	Not visible	
<b>3.13 Scalp Hair (SH)</b>		
<b>A.</b>	Dark in Shade, coarse, rough, easily prone to dandruff and split ends.	
<b>B.</b>	Thin, delicate, straight, light coloured, turn grey at an early age	
<b>C.</b>	Strong, thick, dark, slightly wavy with good lusture, oiliness is usually one of the chief complaints	
<b>3.14 Joints (JT)</b>		
<b>A.</b>	Crackling joints, hyper mobile in nature	
<b>B.</b>	Comparatively normal but have soft and loose ligaments	
<b>C.</b>	Well lubricated, strongly built joints which are well organized, well covered	
<b>3.15 Voice (VR)</b>		
<b>A.</b>	Rough, unclear voice, which turns hoarse or cracks on strain	
<b>B.</b>	Concise, sharp voice, intense in nature & high pitched	
<b>C.</b>	Deep, pleasant, resonant voice which is melodious, resonating, but lower in pitch and intensity	
<b>3.16 Nail (NL)</b>		
<b>A.</b>	Hard, brittle, rough & differ in size from one another, bluish/grayish in contour	
<b>B.</b>	Soft, Strong, well formed, Lustrous, pink in colour	
<b>C.</b>	Strong, large, thick symmetrical & somewhat pale in colour	
<b>3.17 Body temperature</b>		
<b>A.</b>	Feels slightly cold on touch	
<b>B.</b>	Feels slightly warm on touch	
<b>C.</b>	Normal	
<b>3.18 Shape of Palms and feet</b>		



A.	Short and broad	
B.	Medium and slim	
C.	Long and broad	
<b>3.19 Face</b>		
A.	Small and broad with uneven features	
B.	Medium & oval with sharply defined features	
C.	Round, babbly and attractive with balance features	
<b>4. Social or economical status</b>		
<b>4.01 Economy</b>		
A.	Getting less outcome with hard work	
B.	Getting good outcome with moderate efforts	
C.	Enjoys lavishly and royal life	

### SCORE SHEET FOR DETERMINATION OF PRAKRITI /UDALIYAL

Sl. No. of the subject \_\_\_\_\_

S.N o	Observation code	OPTIONS			Identified Area (V/P/K)
		A	B	C	
1.	1.01	P	K	V	
2.	1.02	P	K	V	
3.	1.03	K	P	V	
4.	1.04	P	K	V	
5.	1.05	V	P	K	
6.	1.06	K	P	V	
7.	1.07	V	P	K	
8.	1.08	V	P	K	
9.	1.09	V	P	K	
10.	1.10	V	P	K	
11.	1.11	V	P	K	
12.	1.12	P	K	V	
13.	1.13	V	P	K	
14.	1.14	V	P	K	
15.	1.15	V	P	K	
16.	1.16	V	P	K	
17.	1.17	V	P	K	
18.	1.18	V	P	K	
19.	1.19	V	P	K	
20.	2.01	V	P	K	
21.	2.02	V	K	P	
22.	2.03	K	P	V	
23.	2.04	V	P	K	
24.	2.05	P	V	K	
25.	2.06	V	P	K	
26.	2.07	V	P	K	

27.	2.08	V	P	K	
28.	3.01	V	P	K	
29.	3.02	P	V	K	
30.	3.03	K	P	V	
31.	3.04	P	V	K	
32.	3.05	K	P	V	
33.	3.06	V	P	K	
34.	3.07	K	P	V	
35.	3.08	V	P	K	
36.	3.09	P	V	K	
37.	3.10	V	P	K	
38.	3.11	P	V	K	
39.	3.12	V	P	K	
40.	3.13	V	P	K	
41.	3.14	V	P	K	
42.	3.15	V	P	K	
43.	3.16	V	P	K	
44.	3.17	V	P	K	
45.	3.18	V	P	K	
46.	3.19	V	P	K	
47.	3.12	V	P	K	
48.	4.01	V	P	K	
Individual Score of V P K		V	P	K	
Percentage of V P K		V	P	K	
Type of Prakriti /Udaliyal					

## [1] ENVAGAI THERVU [EIGHT-FOLD EXAMINATION]:

### I. NAADI (KAI KURI) (RADIAL PULSE READING)

#### (a) Naadi Nithaanam (Pulse Appraisal)

##### 1. Kaalam (Pulse reading season)

- |                                     |                          |                                     |                          |
|-------------------------------------|--------------------------|-------------------------------------|--------------------------|
| 1. Kaarkaalam<br>(Rainy season)     | <input type="checkbox"/> | 2.Koothirkaalam<br>(Autumn)         | <input type="checkbox"/> |
| 3. Munpanikaalam<br>(Early winter)  | <input type="checkbox"/> | 4.Pinpanikaalam<br>(Late winter)    | <input type="checkbox"/> |
| 5. Ilavenirkaalam<br>(Early summer) | <input type="checkbox"/> | 6.Muthuvenirkaalam<br>(Late summer) | <input type="checkbox"/> |

##### 2. Desam (Climate of the patient's habitat)

- |                         |                          |                    |                          |
|-------------------------|--------------------------|--------------------|--------------------------|
| 1. Kulir<br>(Temperate) | <input type="checkbox"/> | 2. Veppam<br>(Hot) | <input type="checkbox"/> |
|-------------------------|--------------------------|--------------------|--------------------------|

- |                  |            |                          |             |                          |               |                          |
|------------------|------------|--------------------------|-------------|--------------------------|---------------|--------------------------|
| 3. Vayathu (Age) | 1. 1-33yrs | <input type="checkbox"/> | 2. 34-66yrs | <input type="checkbox"/> | 3. 67-100 yrs | <input type="checkbox"/> |
|------------------|------------|--------------------------|-------------|--------------------------|---------------|--------------------------|

#### 4. Udal Vanmai (General body condition)

1. Iyalbu (Normal built)	<input type="checkbox"/>	3. Valivu (Robust)	<input type="checkbox"/>	4. Melivu (Lean)	<input type="checkbox"/>
-----------------------------	--------------------------	-----------------------	--------------------------	---------------------	--------------------------

#### 5. Vanmai (Expansile Nature)

1. Vanmai	2. Menmai
<input type="checkbox"/>	<input type="checkbox"/>

#### 6. Panbu (Habit)

1. Thannadai (Playing in)	<input type="checkbox"/>	2. Puranadai (Playing out)	<input type="checkbox"/>	3. Illaitthal (Feeble)	<input type="checkbox"/>
4. Kathithal (Swelling)	<input type="checkbox"/>	5. Kuthithal (Jumping)	<input type="checkbox"/>	6. Thullal (Frisking)	<input type="checkbox"/>
7. Azhutthal (Ducking)	<input type="checkbox"/>	8. Padutthal (Lying)	<input type="checkbox"/>	9. Kalatthal (Blending)	<input type="checkbox"/>
10. Munnokku (Advancing)	<input type="checkbox"/>	11. Pinnokku (Flinching)	<input type="checkbox"/>	12. Pakkamnokku (Swerving)	<input type="checkbox"/>
13. Suzhalal (Revolving)	<input type="checkbox"/>				

#### (b) Naadi nadai (Pulse Play)

1. Vali	<input type="checkbox"/>	2. Azhal	<input type="checkbox"/>	3. Iyyam	<input type="checkbox"/>
4. Vali Azhal	<input type="checkbox"/>	5. Azhal Vali	<input type="checkbox"/>	6. Iyya Vali	<input type="checkbox"/>
7. Vali Iyyam	<input type="checkbox"/>	8. Azhal Iyyam	<input type="checkbox"/>	9. Iyya Azhal	<input type="checkbox"/>

#### II. NAA (TONGUE)

1. Maa Padinthuruthal (Coatedness)	1. Present	<input type="checkbox"/>	2. Absent	<input type="checkbox"/>		
2. Niram (Colour)	1. Karuppu (Dark)	<input type="checkbox"/>	2. Manjal (Yellow)	<input type="checkbox"/>	3. Veluppu (Pale)	<input type="checkbox"/>
3. Suvai (Taste sensation)	1. Pulippu (Sour)	<input type="checkbox"/>	2. Kaippu (Bitter)	<input type="checkbox"/>	3. Inippu (Sweet)	<input type="checkbox"/>
4. Vedippu (Fissure)	1. Absent	<input type="checkbox"/>	2. Present	<input type="checkbox"/>		
5. Vai neer oorai (Salivation)	1. Normal	<input type="checkbox"/>	2. Increased	<input type="checkbox"/>	3. Reduced	<input type="checkbox"/>

### III. NIRAM (COMPLEXION)

1. Karuppu (Dark) ☐ 2. Manjal (Yellowish) ☐ 3. Veluppu (Fair) ☐

### IV. MOZHI (VOICE)

1. Sama oli (Medium pitched) ☐ 2. Urattha oli (High pitched) ☐ 3. Thazhntha oli (Low pitched) ☐

### V. VIZHI (EYES)

1. Niram (Venvizhi)  
(Discolouration)

1. Karuppu (Dark) ☐ 2. Manjal (Yellow) ☐

3. Sivappu (Red) ☐ 4. Veluppu (White) ☐

5. No Discoloration ☐

2. Kanneer  
(Tears)

1. Normal ☐ 2. Increased ☐ 3. Reduced ☐

3. Erichchal  
(Burning sensation)

1. Present ☐ 2. Absent ☐

4. Peelai seruthal  
(Mucus excrements)

1. Present ☐ 2. Absent ☐

### VI. MEI KURI (PHYSICAL SIGNS):

1. Veppam  
(Warmth)

1. Mitham (Mild) ☐ 2. Migu (Moderate) ☐ 3. Kuraivu (Low) ☐

2. Viyarvai  
(Sweat)

1. Increased ☐ 2. Normal ☐ 3. Reduced ☐

3. Thodu vali  
(Tenderness)

1. Absent ☐ 2. Present ☐

### VII. MALAM (STOOLS)

1. Niram  
(Color)

1. Karuppu (Dark) ☐ 2. Manjal (Yellowish) ☐

3. Sivappu (Reddish) ☐ 4. Veluppu (Pale) ☐

2. Sikkal  
(Constipation)

1. Present ☐ 2. Absent ☐

3. Sirutthal (Poorly formed stools)	1. Present	<input type="checkbox"/>	2. Absent	<input type="checkbox"/>	
4. Kalichchal (Loose watery stools)	1. Present	<input type="checkbox"/>	2. Absent	<input type="checkbox"/>	
5. Seetham (Watery and mucoid excrements)	1. Present	<input type="checkbox"/>	2. Absent	<input type="checkbox"/>	
6. Vemmai (Warmth)	1. Present	<input type="checkbox"/>	2. Absent	<input type="checkbox"/>	
7. History of habitual constipation	1. Present	<input type="checkbox"/>	2. Absent	<input type="checkbox"/>	
8. Passing of	a) Mucous	1. Yes	<input type="checkbox"/>	2. No	<input type="checkbox"/>
	b) Blood	1. Yes	<input type="checkbox"/>	2. No	<input type="checkbox"/>

## VIII. MOOTHIRAM (URINE)

### (a) NEER KURI (PHYSICAL CHARACTERISTICS)

#### 1. Niram (colour)

Niramattrathu (Colourless)	<input type="checkbox"/>	Paal pondra cheezh (Milky purulent)	<input type="checkbox"/>	Orange (Orange in colour)	<input type="checkbox"/>
Sivappu (Red)	<input type="checkbox"/>	Pachai (Greenish)	<input type="checkbox"/>	Adarthiyana arakku (Dark brown)	<input type="checkbox"/>
Prakasamana Sivappu (Bright red)	<input type="checkbox"/>	Karuppu (Black)	<input type="checkbox"/>	Arakku sivappu/Manjal (Brown red or yellow)	<input type="checkbox"/>

#### 2. Manam (odour)

	Yes		No
Theenattram (Ammonical)	<input type="checkbox"/>	:	<input type="checkbox"/>
Pazha manam (Fruity)	<input type="checkbox"/>	:	<input type="checkbox"/>
Others	: _____		

#### 3. Edai (Specific gravity)

	Yes		No
Iyalbu (1.010-1.025) (Normal)	:	<input type="checkbox"/>	<input type="checkbox"/>
Miga thadithu irangal (>1.025) (High Specific gravity)	:	<input type="checkbox"/>	<input type="checkbox"/>

Laesathuvamaga irangal (<1.010) : ☐ ☐  
(Low Specific gravity)

Laesathuvam & Seeraga irangal (1.010-1.012): ☐ ☐  
(Low and fixed Specific gravity)

**4. Alavu (volume)** Yes No

Iyalbu (1.2-1.5 lt/day) : ☐ ☐  
(Normal)

Athi neer (>2lt/day) : ☐ ☐  
(Polyuria)

Kuraineer (<500ml/day) : ☐ ☐  
(Oliguria)

**5. Nurai (froth)** Yes No

Niramatrathu (Clear) : ☐ ☐

Kalanganathu (Cloudy) : ☐ ☐

**6. Enjal (deposits)** : ☐ ☐

**(b) NEI KURI (oil spreading sign)**

1. Aravam ☐ 2. Aazhi ☐  
(Serpentine fashion) (Ring)

3. Muthu ☐ 4. Aravil Mothiram ☐  
(Pearl beaded appear) (Serpentine in ring fashion)

5. Aravil Muthu ☐ 6. Mothirathil Muthu ☐  
(Serpentine and Pearl patterns) (Ring in pearl fashion)

7. Mothirathil Aravam ☐ 8. Muthil Aravam ☐  
(Ring in Serpentine fashion) (Pearl in Serpentine fashion)

9. Muthil Mothiram ☐ 10. Asathiyam ☐  
(Pearl in ring fashion) (Incurable)

11. Mellena paraval ☐ 12. others: \_\_\_\_\_

**[2]. MANIKADAI NOOL (Wrist circummetric sign)** : \_\_\_\_\_ fbs

**[3]. IYMPORIGAL /IYMPULANGAL**

**(Penta sensors and its modalities)**

	<b>1. Normal</b>	<b>2. Affected</b>
1. Sevi (Ears)	<input type="checkbox"/>	<input type="checkbox"/>
2. Mei (skin)	<input type="checkbox"/>	<input type="checkbox"/>
3. Kan (Eyes)	<input type="checkbox"/>	<input type="checkbox"/>
4. Nakku (Mouth/ Tongue)	<input type="checkbox"/>	<input type="checkbox"/>
5. Mookku (Nose)	<input type="checkbox"/>	<input type="checkbox"/>

**[4]. KANMENTHIRIYANGAL /KANMAVIDAYANGAL**

**(Motor machinery and its execution)**

	<b>1. Normal</b>	<b>2. Affected</b>
1. Vaai (Mouth)	<input type="checkbox"/>	<input type="checkbox"/>
2. Kaal (Legs)	<input type="checkbox"/>	<input type="checkbox"/>
3. Kai (Hands)	<input type="checkbox"/>	<input type="checkbox"/>
4. Eruvaai (Anal canal)	<input type="checkbox"/>	<input type="checkbox"/>
5. Karuvaai (Birth canal)	<input type="checkbox"/>	<input type="checkbox"/>

### [5]. YAKKAI (SOMATIC TYPES)

Vatha constitution	Pitha constitution	Kaba constitution
and lanky built <input type="checkbox"/>	Thin covering of bones and joints <input type="checkbox"/>	Plumpy joints and limbs <input type="checkbox"/>
Hefty proximities of limbs <input type="checkbox"/>	by soft tissue	Broad forehead and chest <input type="checkbox"/>
Cracking sound of joints on walking <input type="checkbox"/>	Always found with warmth, sweating and offensive body odour <input type="checkbox"/>	Sparkling eyes with clear sight <input type="checkbox"/>
Dark and thicker eye lashes <input type="checkbox"/>	Wrinkles in the skin <input type="checkbox"/>	Lolling walk <input type="checkbox"/>
Dark and light admixed complexion <input type="checkbox"/>	Red and yellow admixed complexion <input type="checkbox"/>	Immense strength despite poor eating <input type="checkbox"/>
Split hair <input type="checkbox"/>	Easily suffusing eyes due to heat and alcohol <input type="checkbox"/>	High tolerance to hunger, thirst and fear <input type="checkbox"/>
Clear words <input type="checkbox"/>	Sparse hair with greying <input type="checkbox"/>	Exemplary character with good memory power <input type="checkbox"/>
Scant appetite for cold food items <input type="checkbox"/>	Intolerance to hunger, thirst and heat <input type="checkbox"/>	More liking for sweet taste <input type="checkbox"/>
Poor strength despite much eating <input type="checkbox"/>	Inclination towards perfumes like sandal <input type="checkbox"/>	Husky voice <input type="checkbox"/>
Loss of libido <input type="checkbox"/>	Slender eye lashes <input type="checkbox"/>	
In generosity <input type="checkbox"/>	Pimples and moles are plenty <input type="checkbox"/>	
Sleeping with eyes half closed <input type="checkbox"/>		

**RESULTANT SOMATIC TYPE:** \_\_\_\_\_

### [6] GUNAM

1. Sathuva Gunam ☐

2. Rajo Gunam ☐

3. Thamo Gunam ☐



## [7] UYIR THATHUKKAL

### A. VALI                      1. Normal                      2. Affected

- |   |                          |                          |
|---|--------------------------|--------------------------|
| 1. Praanan<br>(Heart centre)                | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Abaanan<br>(Matedial of muladhar centre) | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Viyaanan<br>(Throat centre)              | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Udhaanan<br>(Forehead centre)            | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Samaanan<br>(Navel centre)               | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Naahan<br>(Higher intellectual function) | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Koorman<br>(Air of yawning)              | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Kirukaran<br>(Air of salivation)         | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Devathathan<br>(Air of laziness)         | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Dhananjeyan<br>(Air that acts on death) | <input type="checkbox"/> | <input type="checkbox"/> |

### B. AZHAL                      1. Normal                      2. Affected

- |   |                          |                          |
|---|--------------------------|--------------------------|
| 1. Anala pittham<br>(Gastric juice)     | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Ranjaka pittham<br>(Haemoglobin)     | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Saathaka pittham<br>(Life energy)    | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Prasaka pittham<br>(Bile)            | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Aalosaka pittham<br>(Aqueous Humour) | <input type="checkbox"/> | <input type="checkbox"/> |

### C. IYYAM

	1. Normal	2. Affected
1. Avalambagam (Serum)	<input type="checkbox"/>	<input type="checkbox"/>
2. Kilethagam (saliva)	<input type="checkbox"/>	<input type="checkbox"/>
3. Pothagam (lymph)	<input type="checkbox"/>	<input type="checkbox"/>
4. Tharpagam (cerebrospinal fluid)	<input type="checkbox"/>	<input type="checkbox"/>
5. Santhigam (Synovial fluid)	<input type="checkbox"/>	<input type="checkbox"/>

### [8] UDAL THATHUKKAL

INCREASED SAARAM (CHYLE)	DECREASED SAARAM(CHYLE)
Loss of appetite <input type="checkbox"/>	Loss weight <input type="checkbox"/>
Excessive salivation <input type="checkbox"/>	Tiredness <input type="checkbox"/>
Loss of perseverance <input type="checkbox"/>	Dryness of the skin <input type="checkbox"/>
Excessive heaviness <input type="checkbox"/>	Diminished activity of the sense organs <input type="checkbox"/>
White musculature	
Cough, dyspnea, excessive sleep <input type="checkbox"/>	
Weakness in all joints of the body <input type="checkbox"/>	

A. SAARAM: INCREASED ☐

DECREASED ☐

INCREASED SENNEER(BLOOD)	DECREASED SENNEER(BLOOD)
Boils in different parts of the body <input type="checkbox"/>	Anemia <input type="checkbox"/>
Anorexia <input type="checkbox"/>	Tiredness <input type="checkbox"/>
Mental disorder <input type="checkbox"/>	Neuritis <input type="checkbox"/>
Splenomegaly <input type="checkbox"/>	Lassitude <input type="checkbox"/>
Colic pain <input type="checkbox"/>	Pallor of the body <input type="checkbox"/>
Increased pressure <input type="checkbox"/>	
Reddish eye and skin <input type="checkbox"/>	
Jaundice <input type="checkbox"/>	
Haematuria <input type="checkbox"/>	

B. SENNEER: INCREASED ☐ DECREASED ☐

INCREASED OON (MUSLE)	DECREASED OON (MUSLE)
Cervical lymphadenitis <input type="checkbox"/>	Impairment of sense organs <input type="checkbox"/>
Vernical ulcer <input type="checkbox"/>	Joint pain <input type="checkbox"/>
Tumour in face ,abdomen, thigh, genitalia <input type="checkbox"/>	Jaw, thigh and genitalia gets shortened <input type="checkbox"/>
Hyper muscular in the cervical region <input type="checkbox"/>	

C. OON: INCREASED ☐ DECREASED ☐

INCREASED KOZHUPPU (ADIPOSE TISSUE)	DECREASED KOZHUPPU (ADIPOSE TISSUE)
Cervical lymph adenitis <input type="checkbox"/>	Pain in the hip region <input type="checkbox"/>
Vernical ulcer <input type="checkbox"/>	Disease of the spleen <input type="checkbox"/>
Tumor in face, abdomen, thigh, genitalia <input type="checkbox"/>	
Hyper muscular in the cervical region <input type="checkbox"/>	
Dyspnea <input type="checkbox"/>	
Loss of activity <input type="checkbox"/>	

D. KOZHUPPU: INCREASED ☐ DECREASED ☐

INCREASED ENBU (BONE)	DECREASED ENBU (BONE)
Growth in bones and teeth <input type="checkbox"/>	Bones diseases <input type="checkbox"/>
	Loosening of teeth <input type="checkbox"/>
	Nails splitting <input type="checkbox"/>
	Falling of hair <input type="checkbox"/>

E. ENBU: INCREASED ☐ DECREASED ☐

INCREASED MOOLAI (BONE MARROW)	DECREASED MOOLAI (BONE MARROW)
Heaviness of the body <input type="checkbox"/>	Osteoporosis <input type="checkbox"/>
Swollen eyes <input type="checkbox"/>	Sunken eyes <input type="checkbox"/>
Swollen phalanges chubby fingers <input type="checkbox"/>	
Oliguria <input type="checkbox"/>	
Non healing ulcer <input type="checkbox"/>	

F. MOOLAI: INCREASED ☐ DECREASED ☐

INCREASED SUKKILAM/SURONITHAM (SPERM OR OVUM)	DECREASED SUKKILAM/SURONITHAM (SPERM OR OVUM)
Infatuation and lust towards women / men <input type="checkbox"/>	Failure in reproduction <input type="checkbox"/>
Urinary calculi <input type="checkbox"/>	Pain in the genitalia <input type="checkbox"/>

G. SUKKILAM/SURONITHAM: INCREASED ☐ DECREASED ☐

## [9] MUKKUTRA MIGU GUNAM

I. Vali Migu Gunam	1. Present	2. Absent
1. Emaciation	<input type="checkbox"/>	<input type="checkbox"/>
2. Complexion – blackish	<input type="checkbox"/>	<input type="checkbox"/>
3. Desire to take hot food	<input type="checkbox"/>	<input type="checkbox"/>
4. Shivering of body	<input type="checkbox"/>	<input type="checkbox"/>
5. Abdominal distension	<input type="checkbox"/>	<input type="checkbox"/>
6. Constipation	<input type="checkbox"/>	<input type="checkbox"/>
7. Insomnia	<input type="checkbox"/>	<input type="checkbox"/>
8. Weakness	<input type="checkbox"/>	<input type="checkbox"/>
9. Defect of sense organs	<input type="checkbox"/>	<input type="checkbox"/>
10. Giddiness	<input type="checkbox"/>	<input type="checkbox"/>
11. Lack of interest	<input type="checkbox"/>	<input type="checkbox"/>

II. Pitham Migu Gunam	1. Present	2. Absent
1. Yellowish discolouration of skin	<input type="checkbox"/>	<input type="checkbox"/>
2. Yellowish discolouration of the eye	<input type="checkbox"/>	<input type="checkbox"/>
3. Yellow coloured urine	<input type="checkbox"/>	<input type="checkbox"/>
4. Yellowishness of feces	<input type="checkbox"/>	<input type="checkbox"/>
5. Increased appetite	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>

6. Increased thirst

7. Burning sensation over the body

☐☐

8. Sleep disturbance

☐☐

**III. Kapham migu gunam**

**1. Present**

**2. Absent**

1. Increased salivary secretion

☐☐

2. Reduced activeness

☐☐

3. Heaviness of the body

☐☐

4. Body colour – fair complexion

☐☐

5. Chillness of the body

☐☐

6. Reduced appetite

☐☐

7. Eraippu

☐☐

8. Increased sleep

☐☐

**[10]. NOIUTRA KALAM**

1. Kaarkaalam  
(Aug15-Oct14)

☐

2. Koothirkaalam  
(Oct15-Dec14)

☐

3. Munpanikaalam  
(Dec15-Feb14)

☐

4. Pinpanikaalam  
(Feb15-Apr14)

☐

5. Ilavenirkaalam  
(Apr15-June14)

☐

6. Muthuvenirkaalam  
(June15-Aug14)

☐

**[11]. NOI UTRA NILAM**

1. Kurunji  
(Hilly terrain)

☐

2. Mullai  
(Forest range)

☐

3. Marutham  
(Plains)

☐

4. Neithal  
(Coastal belt)

☐

5. Paalai  
(Desert)

☐

[12]. Date of Birth

[13]. Time of Birth

AM

PM

[14]. Place of Birth:

**CLINICAL SYMPTOMS OF “Vaathakannaam” :**

	YES	NO
1. Giddiness and Incoordination during walking,standing and climbing up and down the stairs	<input type="checkbox"/>	<input type="checkbox"/>
2. Lateral slipping during walking	<input type="checkbox"/>	<input type="checkbox"/>
3. Weakness in whole body	<input type="checkbox"/>	<input type="checkbox"/>
4. Wide based gait	<input type="checkbox"/>	<input type="checkbox"/>

**Date:**

**P.G Scholar**

**Faculty**

**ANNEXURE-III**  
**DEPARTMENT OF NOI NAADAL**  
**NATIONAL INSTITUTE OF SIDDHA, CHENNAI – 47.**  
**A STUDY ON SYMPTOMATOLOGY AND DIAGNOSTIC**  
**METHODOLOGY OF VAATHAKANNAGAM**  
**FORM-III-LABORATORY INVESTIGATIONS**

1. O.P No: \_\_\_\_\_ Lab.No \_\_\_\_\_ Serial No \_\_\_\_\_

2. Name: \_\_\_\_\_

3. Date of birth : 

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D D M M Y E A R

4. Age: \_\_\_\_\_ years

5. Date of assessment: \_\_\_\_\_

**BLOOD**

1. TC \_\_\_\_\_ Cells/cu mm

2. DC  
P \_\_\_\_\_% L \_\_\_\_\_% E \_\_\_\_\_% M \_\_\_\_\_% B \_\_\_\_\_%

3. Hb \_\_\_\_\_ gms%

4. ESR At 30 minutes \_\_\_\_\_ mm At 60 minutes \_\_\_\_\_ mm

5. Blood Sugar (F) \_\_\_\_\_ mgs%

6. Blood Sugar (PP) \_\_\_\_\_ mg%

7. Serum Cholesterol \_\_\_\_\_ mgs %

8. HDL \_\_\_\_\_ mgs%

9. LDL \_\_\_\_\_ mgs%

10. Triglycerides \_\_\_\_\_ mgs%

11. Blood Urea \_\_\_\_\_ mgs%

12. Serum Creatinine \_\_\_\_\_ mgs%



**URINE**

1. Neerkuri \_\_\_\_\_

2. Neikuri \_\_\_\_\_

3. Sugar (Fasting) \_\_\_\_\_

(Post Prandial) \_\_\_\_\_

4. Albumin \_\_\_\_\_

5. Deposits \_\_\_\_\_

**SPECIAL INVESTIGATION (if needed)**

CT or MRI Brain

**Date:**

**P.G Scholar**

**Faculty**

**ANNEXURE - IV**  
**DEPARTMENT OF NOI NAADAL**  
**NATIONAL INSTITUTE OF SIDDHA, CHENNAI – 47.**  
**A STUDY ON SYMPTOMETOLOGY AND DIAGNOSTIC**  
**METHODOLOGY OF VAATHAKANNAGAM**

**FORM IV - INFORMED WRITTEN CONSENT FORM**

I .....exercising my free power of choice, hereby give my consent to be included as a subject in the diagnostic trial entitled “A study on“VAATHAKANNAGAM”. I may be asked to give urine and blood samples during the study.

I have been informed about the study to my satisfaction by the attending investigator about the purpose of this trial, the nature of study and the laboratory investigations. I also give my consent to publish my study results in scientific conferences and reputed scientific journals for the betterment of clinical research.

The photographs taken in the study will be displayed only in scientific conference for the advancement of medical knowledge.

Signature /thumb impression of the Patient:

Date :

Name of the Patient:

Signature of the Investigator:

Date :

Head of the Department:

நோய் நாடல் துறை  
தேசிய சித்த மருத்துவ நிறுவனம், சென்னை-47.  
“வாதகண்ணகம் நோய்கணிப்புமுறை மற்றும் குறிகுணங்களை பற்றிய ஓர் ஆய்வு”  
ஒப்புதல் படிவம்

ஆய்வாளரால் சான்றளிக்கப்பட்டது

நான் - ந்த ஆய்வை குறித்த அனைத்து விபரங்களையும் நோயாளிக்கு புரியும் வகையில் எடுத்துரைத்தேன் என உறுதியளிக்கிறேன்.

தேதி:

- டம்:

கையொப்பம் :

பெயர் :

நோயாளியின் ஒப்புதல்

நான், \_\_\_\_\_ என்னுடைய சுதந்திரமாக  
தேர்வு செய்யும் உரிமையைக் கொண்டு - நங்கு தலைப்பிடப்பட்ட “வாதகண்ணகம்”  
நோயை கணிப்பதற்கான மருத்துவ ஆய்விற்கு என்னை உட்படுத்த ஒப்புதல்  
அளிக்கிறேன்.

என்னிடம் - ந்தமருத்துவ ஆய்வின் காரணத்தையும், மருத்துவ  
ஆய்வுக்கூட பரிசோதனைகள் பற்றியும் திருப்தி அளிக்கும் வகையில் ஆய்வு  
மருத்துவரால் விளக்கிக் கூறப்பட்டது.

- ந்த ஆய்வின் போது எடுக்கப்படும் புகைப்படங்கள் மருத்துவ  
அறிவியலின் முன்னேற்றத்திற்காக மட்டும் பயன்படுத்தப்படும் என மருத்துவரால்  
விளக்கிக் கூறப்பட்டது.

தேதி:

- டம்:

கையொப்பம் :

பெயர் :

தேதி :

- டம்:

சாட்சிக்காரர் கையொப்பம் :

பெயர் :

உறவுமுறை :

## **ANNEXURE – IV – A**

### **DEPARTMENT OF NOI NAADAL NATIONAL INSTITUTE OF SIDDHA, CHENNAI – 47. A STUDY ON SYMPTOMATOLOGY AND DIAGNOSTIC METHODOLOGY OF VAATHAKANNAGAM**

#### **FORM IV- A - PATIENT INFORMATION SHEET**

##### **PURPOSE OF RESEARCH AND BENEFITS:**

The diagnostic research study in which your participation is proposed to assess the diagnostic methods in Siddha methodology in VAATHAKANNAGAM patients. Knowledge gained from this study would be of benefit to patients suffering from such conditions for the diagnosis and prognosis.

##### **STUDY PROCEDURE:**

You will be interviewed and examined as OP and IP patients at the study centre. At the first visit the physician will conduct a brief physical examination and assess the condition followed by Envagai thervu and routine blood and urine analysis. After matching the inclusion criteria you will be included in this study and you will be examined on the basis of Envagai thervu.

##### **POSSIBLE RISK:**

During this study there may be a minimum pain to you while drawing blood sample.

##### **CONFIDENTIALITY:**

Your medical records will be treated with confidentiality and will be revealed only to other doctors / scientists. The results of this study may be published in a scientific journal, but you will not be identified by your name.

## **YOUR PARTICIPATION AND YOUR RIGHTS:**

Your participation in this study is voluntary and you may be withdrawn from this study anytime without having to give reasons for the same. You will be informed about the findings that occur during the study. If you do agree to take part in this study, your health record will need to be made available to the investigators. If you don't wish to participate at any stage, the level of care you receive will in no way be affected.

The Ethics committee cleared the study for undertaking at OPD and IPD, NIS. Should any question arise with regards to this study you contact following person

### **P.G Scholar:**

Dr. B.Princy  
MD (S) III<sup>rd</sup> Year  
Department of Noinaadal  
National Institute of Siddha  
Chennai-600 047.

தேசிய சித்த மருத்துவ நிறுவனம், சென்னை-47.

நோய் நாடல் துறை

“வாதகண்ணகம் நோய் கணிப்பு முறை மற்றும் குறிகுணங்களை பற்றிய ஓர் ஆய்வு”

நோயாளியின் தகவல் படிவம்

ஆய்வின் நோக்கமும் பயனும்:

தாங்கள் பங்கேற்கும் இவ்வாய்வு “வாதகண்ணகம் நோய் கணிப்பு முறை மற்றும் குறிகுணங்களை பற்றிய ஓர் ஆய்வு” சித்த மருத்துவ முறையில் நோயை கணிப்பதற்கான ஓர் ஆய்வுமுறை. - வ்வாய்வு தங்களின் நோய்கணிப்பை பற்றியும் நோயின் போக்கை பற்றியும் அறிய உதவும்.

ஆய்வு முறை:

தாங்கள் நோக்காணல் மற்றும் பரிசோதனைகளின் மூலம் உள்நோயாளி, வெளிநோயாளி பிரிவில் ஆய்வு செய்யப்படுவீர்கள். முதல் நோக்காணலின்போது ஆய்வாளரால் உடல் பரிசோதனை, நீர், - ரத்தம், மற்றும் மலம் பரிசோதனை செய்து குறிப்பிட்ட குறிகுணங்கள் - ரூப்பின் - வ்வாய்விற்காக எடுத்துக்கொள்ளப்படுவீர்கள்.

நேரும் உபாதைகள்:

- வ்வாய்வில் - ரத்த பரிசோதனைக்காக - ரத்தம் எடுக்கும்போது சிறிதளவு வலி ஏற்படலாம்.

மந்தணம் :

தங்களின் மருத்துவ ஆவணங்கள் அனைத்தும் மருத்துவர், ஆய்வாளர் அல்லாத பிறரிடம் தெரிவிக்கப்படமாட்டாது.

நோயாளியின் பங்களிப்பும் உரிமைகளும்:

- வ்வாய்வில் தங்களின் பங்கேற்பு தன்னிச்சையானது. - வ்வாய்வில் தாங்கள் ஒத்துழைக்க - யலவில்லையெனில் எப்பொழுது வேண்டுமானாலும் காரணம் எதுவும் கூறாமல் விலகிக்கொள்ளலாம். - வ்வாய்வின்போது அறியப்படும் தகவல்கள் தங்களுக்கு தெரிவிக்கப்படும். நோயாளியின் ஒப்புதலுக்கிணங்க நோய்கணிப்பு விவரங்களை ஆய்வாளர் பயன்படுத்திக்கொள்வார். நோயாளி ஆய்வினிடையே ஒத்துழைக்க மறுத்தாலும் எந்த நிலையிலும் நோயாளியை கவனிக்கும் விதம்

பாதிக்கப்பட மாட்டது. நிறுவன நெறிமுறை குழுமம் (Institutional Ethical committee)  
மேற்கண்ட ஆய்வினை மேற்கொள்ள ஒப்புதல் அளித்துள்ளது.

ஆய்வு குறித்த சந்தேகங்கள் - ரூப்பின் கீழ்க்கண்ட நபரை தொடர்பு கொள்ளவும்.

பட்டமேற்படிப்பாளர் :

மரு. பி.பிரின்சி

நோய் நாடல் துறை

தேசிய சித்த மருத்துவ நிறுவனம்,

சென்னை-47.

மின் அஞ்சல் – drprincyjan@gmail.com

தொலைபேசி எண்- 9585164627



Clinical Trial Details (PDF Generation Date :- Fri, 14 Jul 2017 09:59:11 GMT)

<b>CTRI Number</b>	CTRI/2017/07/009003 [Registered on: 10/07/2017] - <b>Trial Registered Retrospectively</b>	
<b>Last Modified On</b>	05/07/2017	
<b>Post Graduate Thesis</b>	Yes	
<b>Type of Trial</b>	Observational	
<b>Type of Study</b>	Case Control Study	
<b>Study Design</b>	Single Arm Trial	
<b>Public Title of Study</b>	a study on Siddha diagnostic term of Vathakannagam	
<b>Scientific Title of Study</b>	a study on symptomatology and diagnostic methodology of Vathakannagam	
<b>Secondary IDs if Any</b>	<b>Secondary ID</b>	<b>Identifier</b>
	NIL	NIL
<b>Details of Principal Investigator or overall Trial Coordinator (multi-center study)</b>	<b>Details of Principal Investigator</b>	
	<b>Name</b>	Princy B
	<b>Designation</b>	PG scholar
	<b>Affiliation</b>	NATIONAL INSTITUTE OF SIDDHA
	<b>Address</b>	Room no 14 Department of Noinaadal National Institute of Siddha Tambaram sanatorium Room no 14 Department of Noinaadal National Institute of Siddha Tambaram sanatorium Chennai TAMIL NADU 600047 India
	<b>Phone</b>	9585164627
	<b>Fax</b>	
	<b>Email</b>	drprincyjan@gmail.com
<b>Details Contact Person (Scientific Query)</b>	<b>Details Contact Person (Scientific Query)</b>	
	<b>Name</b>	Dr G J Christian
	<b>Designation</b>	ASSOCIATE PROFESSOR
	<b>Affiliation</b>	NATIONAL INSTITUTE OF SIDDHA
	<b>Address</b>	Department of Noinaadal National Institute of Siddha Tambaram sanatorium Department of Noinaadal National Institute of Siddha Tambaram sanatorium Chennai TAMIL NADU 600047 India
	<b>Phone</b>	9962545930
	<b>Fax</b>	
	<b>Email</b>	christianvijila@gmail.com
<b>Details Contact Person (Public Query)</b>	<b>Details Contact Person (Public Query)</b>	
	<b>Name</b>	Dr B Princy
	<b>Designation</b>	PG scholar
	<b>Affiliation</b>	NATIONAL INSTITUTE OF SIDDHA
	<b>Address</b>	Room no 14 Department of Noinaadal National Institute of Siddha Tambaram sanatorium Room no 14 Department of Noinaadal National Institute of Siddha Tambaram sanatorium Chennai TAMIL NADU 600047





	India			
Phone	9585164627			
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Email	drprincyjan@gmail.com			
Source of Monetary or Material Support	Source of Monetary or Material Support			
	> Siddha Literature			
Primary Sponsor	Primary Sponsor Details			
Name	National Institute of Siddha			
Address	National Institute of Siddha Tambaram sanatorium Chennai			
Type of Sponsor	Research institution and hospital			
Details of Secondary Sponsor	Name	Address		
	NIL	NIL		
Countries of Recruitment	List of Countries			
	India			
Sites of Study	Name of Principal Investigator	Name of Site	Site Address	Phone/Fax/Email
	Princy B	National Institute of Siddha	Room no 14 Department of Noinaadal National Institute of Siddha Tambaram sanatorium Chennai 600047 Chennai TAMIL NADU	9585164627  drprincyjan@gmail.com
Details of Ethics Committee	Name of Committee	Approval Status	Date of Approval	Is Independent Ethics Committee?
	INSTITUTIONAL ETHICS COMMITTEE	Approved	26/08/2015	No
Regulatory Clearance Status from DCGI	Status		Date	
	Not Applicable		No Date Specified	
Health Condition / Problems Studied	Health Type		Condition	
	Patients		UNSTEADYNESS DURING WALING, CLIMBING UP AND DOWN THE STAIRS, LATERALLY SLIPPING DURING WALKING, WEEKNESS IN WHOLE BODY AND WIDE BASED GAIT	
Intervention / Comparator Agent	Type	Name	Details	
Inclusion Criteria	Inclusion Criteria			
	Age From	20.00 Year(s)		
	Age To	70.00 Year(s)		
	Gender	Both		
	Details	Unsteadiness during walking, climbing up and down the stairs, laterally slipping during walking, weakness in whole body and wide gait.		
Exclusion Criteria	Exclusion Criteria			
	Details	Parkinsonism Stroke Alcoholism		



	Hypothyroidism Multiple sclerosis				
<b>Method of Generating Random Sequence</b>	Not Applicable				
<b>Method of Concealment</b>	Not Applicable				
<b>Blinding/Masking</b>	Not Applicable				
<b>Primary Outcome</b>	<table> <tr> <th>Outcome</th><th>Timepoints</th></tr> <tr> <td>Establishing the relevance / correlation Sage Yugi symptomatology with that of modern concept of Cerebellar ataxia</td><td>Establishing the relevance / correlation Sage Yugi symptomatology with that of modern concept of Cerebellar ataxia</td></tr> </table>	Outcome	Timepoints	Establishing the relevance / correlation Sage Yugi symptomatology with that of modern concept of Cerebellar ataxia	Establishing the relevance / correlation Sage Yugi symptomatology with that of modern concept of Cerebellar ataxia
Outcome	Timepoints				
Establishing the relevance / correlation Sage Yugi symptomatology with that of modern concept of Cerebellar ataxia	Establishing the relevance / correlation Sage Yugi symptomatology with that of modern concept of Cerebellar ataxia				
<b>Secondary Outcome</b>	<table> <tr> <th>Outcome</th><th>Timepoints</th></tr> <tr> <td>Arriving at concepts of the Siddha pathophysiology of Vaatha Kannagam Finalizing the line of treatment, dietary regimen for Vaatha Kannagam Elucidation of Siddha investigatory parameters of Envagai thervu, in the diagnosis of Vaatha Kannagam</td><td>1 MONTH</td></tr> </table>	Outcome	Timepoints	Arriving at concepts of the Siddha pathophysiology of Vaatha Kannagam Finalizing the line of treatment, dietary regimen for Vaatha Kannagam Elucidation of Siddha investigatory parameters of Envagai thervu, in the diagnosis of Vaatha Kannagam	1 MONTH
Outcome	Timepoints				
Arriving at concepts of the Siddha pathophysiology of Vaatha Kannagam Finalizing the line of treatment, dietary regimen for Vaatha Kannagam Elucidation of Siddha investigatory parameters of Envagai thervu, in the diagnosis of Vaatha Kannagam	1 MONTH				
<b>Target Sample Size</b>	<b>Total Sample Size=20</b> <b>Sample Size from India=20</b>				
<b>Phase of Trial</b>	N/A				
<b>Date of First Enrollment (India)</b>	17/04/2017				
<b>Date of First Enrollment (Global)</b>	No Date Specified				
<b>Estimated Duration of Trial</b>	<b>Years=0</b> <b>Months=3</b> <b>Days=0</b>				
<b>Recruitment Status of Trial (Global)</b>	Not Applicable				
<b>Recruitment Status of Trial (India)</b>	Open to Recruitment				
<b>Publication Details</b>	NIL				
<b>Brief Summary</b>	Siddha medicine is one of the ancient system of medicine. According to Siddha system of medicine Vathakannagam comes under Vatha diseases. Vathakannagam has been discribed by sage yugi in his text of Yugi Vaidya Chindamani. This may be include unsteadiness during walking, climbing up and down the stairs due to motor incoordination. Laterally slipping during walking, weakness in whole body and wide based gait. Vathakannagam closely resembles the condition cerebellar ataxia in modern medicine.				



# KGS

Advanced  
MR, CT Scan &  
Ultrasound  
Doppler scan  
(One stop clinic in CT, MR & Doppler imaging)

Name: SENTHILMURUGAN Age: 30 Sex: M I.D. No: 09 / 14

Ref. By: VELLAMMAL MEDICAL COLLEGE HOSPITAL DATE: 24-09-2014

## MRI REPORT – LOWER THORACIC AND LUMBOSACRAL SPINE

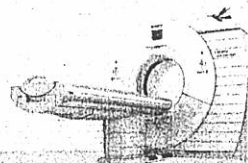
### TECHNIQUE:-

Without IV contrast  
TSE & STIR techniques  
T1W, T2W sagittal  
T2W axial & STIR coronal sections

Whole spine  
TSE technique  
T2W sagittal planes.

### CONCLUSION:-

1. There is evidence of low signal marrow replacing entire vertebral column.
2. No evidence of spondylo-discitis or osteomyelitis changes.
3. Bulging annulus seen at L4-L5 and L5-S1 levels
4. No obvious intra medullary signal changes noticed in entire spinal cord.
5. Slightly thickened cauda equina nerve roots.
6. At present no evidence of intra medullary signal changes noticed in cervical cord.
7. Prominent adenoid with intra glandular cystic area noticed.
8. Mild cerebral and cerebellar shrinkage seen.



H.O. : 766, Anna nagar, (Opp. Cini priya Theatre) Madurai - 625 020.

53/135, Anna Nagar, 1st East Cross Street, Madurai - 625 020. Ph : (0452) 2524321, 2528929, 98431 10069, 98431 65192.

B.O. : 26/6, Raja Ramanatha Sethupathy Nagar, Thai Complex, Ramanathapuram - 623 501. Ph : 04567-227557, 228827

B.O. 346, Thiruchuli Road, Aruppukottai - 626 101. Ph : 04566 - 222022, 222265



# SCANS WORLD

Excellence in Speciality Imaging  
(A Unit of Roentgen Scans World Pvt. Ltd.)

MRS. MANGALESHWARI [67Y/F]

Procedure done on: 07.04.2016

Reported on : 07.04.2016

Ref. By : E. S. I. C. Hospital

SW/NB/MRI:24004

## **WIDEBORE 48 CHANNEL 1.5T MRI – BRAIN WITH CONTRAST**

### **Sequences:**

T2W : AXIAL      T1 W: SAGITTAL      SWI : AXIAL      DWI, ADC MAPPING  
T2 W FLAIR : CORONAL      3 D TOF ANGIOGRAM      Post contrast study

### **Brain:**

No evidence of acute infarct / acute bleed.

Chronic infarcts in right cerebellum, left frontal region and left peritrigonal white matter.  
Minimal chronic hemorrhagic residue in left frontal infarct.

Few tiny chronic lacunes in bilateral ganglio capsular regions.

Age related mild diffuse cerebral atrophy

No abnormal enhancement noted on contrast administration.

Rest of the cerebral hemispheric parenchyma is normal. Normal grey-white matter differentiation is present.

Rest of the caudate and lentiform nuclei and the thalami are normal. The corpus callosum, the anterior and posterior commissures are normal.

The midbrain, pons and medulla are normal. The superior, middle and inferior cerebellar peduncles are normal.

Ventricles and cisterns appear normal. The internal auditory canals and their contents are normal.

Pituitary gland and sella turcica are normal. The cavernous sinuses and the internal carotid arteries are normal. The calvarium is normal. The orbits and their contents are normal.

Mucosal thickening in all paranasal sinuses.



# SCANS WORLD

Excellence in Speciality Imaging  
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MRS. MANGALESHWARI

[67Y/F]

Procedure done on:07.04.2016

**3D TOF MR Angiography for circle of Willis:**

Occlusion of the V4 segment of right vertebral , distal V4 segment of left vertebral , basilar and right posterior cerebral arteries.

Occlusion of the distal M1 segment of left MCA

Left fetal PCA-variant anatomy

The intracranial internal carotid arteries are normal on both sides. The bifurcation of both internal carotid arteries are normal.

The proximal anterior and right middle cerebral arteries are normal.

Left posterior cerebral artery is normal.


**Impression:**

- No evidence of acute infarct / acute bleed.
- Chronic infarcts in right cerebellum, left frontal region and left peritrigonal white matter. Minimal chronic hemorrhagic residue in left frontal infarct.
- Few tiny chronic lacunes in bilateral ganglio capsular regions.
- Occlusion of the V4 segment of right vertebral , distal V4 segment of left vertebral , basilar and right posterior cerebral arteries.
- Occlusion of the distal M1 segment of left MCA

Please correlate clinically.

Dr.K.Gopinathan MD,DNB  
9841356950

Dr.C.Amarnath MD , FRCR  
9884877622

  
Dr.Philson.J.M. MD,FRCR,PDCC.,  
9486610557



# Accura Diagnostic Centre India Pvt.Ltd.

care - quality - accuracy

Patient's Name : Mr. Muthurathinam Age/Sex : 50Yrs / Male  
Ref.Consultant : Dr.P.R.Balakrishnan MD., Date : 28/03/13  
Clinical History :

## MRI OF BRAIN

### PROTOCOL:

Axial - SE T1, FSE T2

Sagittal - FSE T2

Coronal - FLAIR

### OBSERVATIONS:

-Subacute infarct is seen in the inferior cerebellar vermis and the cerebellar hemispheres bilaterally. Focal subacute infarct is also seen in the left lateral medulla. DW Images with ADC Maps show restricted diffusion in these regions. Partial effacement of the fourth ventricle is seen. No hydrocephalus is manifest.

-Chronic lacunar infarcts are seen in the frontal, parietal subcortical white matter bilaterally.

-Basal ganglia, thalami, internal and external capsules appear normal.

-Sella and parasellar regions show no abnormality.

-Basal cisterns are within normal limits.

-Orbits and soft tissues of the face are normal.

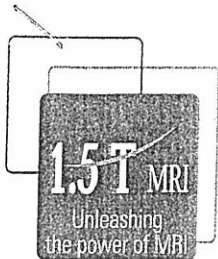
-Right frontal and bilateral anterior ethmoidal sinusitis noted.

### IMPRESSION :-

- Subacute infarct in the inferior cerebellar vermis, cerebellar hemispheres bilaterally and left lateral medulla.

**Dr.L.Kanth D.M.R.D.,Dip.N.B.(Rad).,**  
Consultant Radiologist.

No. of Films :- **3**



# SARAVANA SCANS



NAME	MASTER. CHENKOTTAYAN	AGE	14 YRS
CR.NO	C76967	SEX	MALE
REF. CONSULTANT	DR. S. RAVIKANNAN	DATE	27.09.2011

## MRI – BRAIN

### TECHNIQUE:

AXIAL T1 SPIN ECHO, T2 FAST SPIN ECHO, FLAIR  
POST CONTRAST T1 SE AXIAL, SAGITTAL AND CORONAL

### FINDINGS:

Moderate diffuse cerebellar atrophy seen with prominent fourth ventricle and cisterna magna.

Bilateral cerebral and cerebellar hemispheres are showing normal signal intensity. No focal lesion or abnormal signal changes seen.

Bilateral basal ganglia show normal signal.

Midbrain, pons and medulla show normal morphology and signal intensity pattern.

Lateral and third ventricles are normal. No dilatation seen.

Basal CSF cisterns are normal. Cortical CSF spaces are normal.

Both orbits and their contents and retroocular regions are normal.

Sella and pituitary gland is normal.

Base of skull regions and cranio vertebral junction region is normal.

Cranial vault and extra cranial soft tissues are normal.

Left ethmoid sinus polyp seen.

Mild adenoidal enlargement seen in nasopharynx.

### IMPRESSION:

- MODERATE DIFFUSE CEREBELLAR ATROPHY WITH PROMINENT FOURTH VENTRICLE AND CISTERNA MAGNA

1.5T MRI  
Unleashing  
the power of MRI

## SARAVANA SCANS



- NO OTHER DEMONSTRABLE ABNORMALITY IN THE MRI STUDY OF BRAIN
- LEFT ETHMOID SINUS POLYP
- MILD ADENOIDAL ENLARGEMENT IN NASOPHARYNX

*Please correlate*

*lp*  
DR. K. SARAVANAN., M.D., R.D.  
Radiologist

DR. JEYABHARATHI., D.M.R.D.,  
Radiologist



## EYE AND TONGUE EXAMINATION

OP. No: H96647/38 /MALE



OP. No: H93512/54/MALE



OP. No: H49515/53/FEMALE



OP No: H96647/38 yrs/ MALE



OP NoH93512/54yrs/ MALE



OP No: H49515/33 yrs/ FEMALE

